U.S. Department of Health and Human Services
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IMPLEMENTATION BARRIERS TO AND FACILITATORS OF SCREENING, BRIEF INTERVENTION, REFERRAL, AND TREATMENT (SBIRT) IN FEDERALLY QUALIFIED HEALTH CENTERS (FQHCS)

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ACRONYMS

The following acronyms are mentioned in this report and/or appendix.

ASPE	HHS Office of the Assistant Secretary for Planning and Evaluation
AUDIT	Alcohol Use Disorder Identification Test
AUDIT-C	Alcohol Use Disorder Identification Test-Consumption
BHP	Behavioral Health Provider
BMC	BioMed Central
BMJ	British Medical Journal
BSW	Bachelor of Social Work
CBI	Combined Behavioral Intervention
CDC	HHS Centers for Disease Control and Prevention
CEO	Chief Executive Officer
CFIR	Consolidated Framework for Implementation Research
CFR	Code of Federal Regulations
CMS	Centers for Medicare and Medicaid Services
CNS	Central Nervous System
CRAFFT	Care, Relax, Alone, Forget, Friends, Trouble screen for adolescent substance abuse
DAST	Drug Abuse Screening Test
DATA 2000	Drug Addiction Treatment Act of 2000
DEA	U.S. Drug Enforcement Agency
EHR	Electronic Health Record
FDA	HHS Food and Drug Administration
FQHC	Federally Qualified Health Center
FTE	Full-Time Equivalent
HHS	U.S. Department of Health and Human Services
HIV	Human Immunodeficiency Virus
HRSA	HHS Health Resources and Services Administration
IOM	Institute of Medicine
JAMA	Journal of the American Medical Association
LCSW	Licensed Clinical Social Worker

MA	Medical Assistant
MAT	Medically Assisted Treatment
MMWR	Morbidity and Mortality Weekly Report
MSW	Master of Social Work
NACHC	National Association of Community Health Centers
NIAAA	National Institute on Alcohol Abuse and Alcoholism
NIDA	National Institute on Drug Abuse
NIDA-MED	National Institute on Drug Abuse, Medical and Health Professionals
NIHR	National Institute for Health Research
NQF	National Quality Forum
PCBHI	Primary Care-Behavioral Health Integration
PCMH	Patient-Centered Medical/Health Home
PCP	Primary Care Provider
PHQ-2	Patient Health Questionnaire-2
PHQ-9	Patient Health Questionnaire-9
PLoS	Public Library of Science
RCT	Randomized Controlled Trial
SAMHSA	HHS Substance Abuse and Mental Health Services Administration
SBI	Screening and Brief Intervention
SBIRT	Screening, Brief Intervention, Referral, and Treatment
ScHARR	School of Health and Related Research
SUD	Substance Use Disorder
USPSTF	U.S. Preventive Services Task Force
VA	U.S. Department of Veterans Affairs (previously Veterans Administration)
WHO	World Health Organization
WIPHL	Wisconsin Initiative to Promote Healthy Lifestyles

EXECUTIVE SUMMARY

A range of interventions exists for the prevention and treatment of alcohol-dependent and drug-related risk and harm.[1] Primary care settings may be ideal locations for screening for early detection of risky or dependent substance use, conducting brief interventions to reduce individual and population risk, initiating treatment for substance dependence, and managing other comorbid conditions that may benefit from specialist consultation and/or treatment.[2] Adolescents and adults with high-risk or dependent use of alcohol and other drugs come into frequent contact with primary care.[3] Screening and brief intervention (SBI) for alcohol has emerged as a cost-effective preventive approach[4-5] that is relevant and practicable for delivery in primary health care.[6-8] Substance use SBI is typically short in duration (5-25 minutes) and designed to promote awareness of the negative effects of drinking or drug use and to motivate positive behavior change. Primary care treatments for alcohol and drug dependence include Food and Drug Administration-approved medications for alcohol and opioid dependence and several counseling techniques.

Despite considerable efforts over many years by federal agencies, professional medical associations, and health insurers to persuade primary care providers (PCPs) to routinely screen and treat patients with substance use disorders, few do so. United States and international literature reveal persistent barriers to brief alcohol and drug intervention,[9-14] including lack of time, training, and resources; low or no reimbursement; and the inability to bill for a primary care service and a behavioral health service on the same day; limited referral resources; beliefs that patients will not take advice to change their drinking or drug use behaviors; and concern about offending patients by discussing substance use. Many providers lack training and are uncomfortable dealing with substance use issues. There is a chronic dearth of behavioral health specialists to provide patient consultation and an absence of behavioral health referral sources when they are needed. Competing demands on PCPs' time further slow the process of integrating SBI into routine practice. Getting attention and time from PCPs to deliver any prevention or risk reduction health advice is very difficult.

This paper reviews the research literature on the barriers in primary care and strategies for overcoming those barriers to integrate substance use care into evolving patient-centered medical/health homes (PCMHs). The literature review is supplemented by extensive interviews with experts and site visits to health centers across the country. From these data, several policy and programmatic levers were identified that could help federally qualified health centers (FQHCs) adopt and sustain substance use screening and treatment as a routine part of whole-person care for their patients.

Key elements:

- **Support must come from leaders who are credible to FQHCs**: Impetus for integrating substance use treatment must come from the organizations and professional societies that are most salient to health centers.

- **A standard, brief behavioral health screener is needed**: A common, simple screener is needed that primary care can use to assess behavioral risks, including alcohol and substance use.

- **Adapt substance use risk assessment and intervention**: FQHCs should be encouraged to fit substance use screening and risk reduction interventions into their styles and paces of practice.

- **Standardize substance use SBI metrics for electronic health record (EHR) reporting**: Simple electronically specified measures of SBI can be modeled on the depression and tobacco screening and counseling measures that FQHCs already report.

- **Include SBI as an essential element of patient-centered medical homes**: Primary care practices that seek certification as PCMHs should demonstrate their ability to provide substance use screening, intervention, and treatment to their patients.

- **Remove restrictions on communication between providers**: Clinicians need to be able to readily access all necessary clinical information to assess and treat their patients, including information about patients' substance use.

- **Remove reimbursement barriers**: Substance use screening, treatment, and care management, when delivered by credentialed primary care professionals or well-trained non-credentialed paraprofessionals, must be sufficiently reimbursed to be financially sustainable for primary care.

- **Payers should demand accountability**: Government and private insurers should require reports on substance use screening and treatment, similar to the requirements to report on diabetes, hypertension, immunization, and other routine primary care clinical services.

- **Direct greater attention to integrating substance use services throughout primary care-behavioral health integration efforts**: Service and training grant programs that are designed to increase the integration of primary and behavioral health care services should explicitly require the inclusion of substance use services.

- **Organizational development consultation may result in the better fit of SBI into FQHC workflows**: Assisting health centers to infuse substance use

screening and treatment into their existing patient flows, EHRs, and accountability structures may increase uptake and sustainability.

- **Behavioral health clinicians working in FQHCs need substance use training and skills**: Behavioral health specialists should be skilled in assessing and managing the wide range of behavioral health issues of primary care patients, including their unhealthy use of alcohol and other drugs.

- **Substance use records should be integral to all EHR systems**: EHRs should always include fields for substance use risk assessment, diagnosis, and treatment.

- **Continuing education programs for FQHC primary care and behavioral health personnel should include substance use risk assessment and treatment**: Workforce development in primary care must include core substance use risk assessment and intervention competencies.

- **Emphasize substance use in pre-professional primary care workforce development**: Baccalaureate and advanced health professional education programs should teach core competencies in substance use risk assessment, treatment, and recovery support.

- **Recognize FQHCs that provide outstanding substance use care**: Recognize health centers that excel in assessing and managing substance use risk. Their successes should be publicized for others to emulate.

What is clear from an extensive review of the research, the interviews, and the site visits is that wishing and hoping that the evidence of effectiveness will produce widespread uptake is exactly that, wishful hoping: What's needed is action. Fortunately, there are examples of successful adoption that show what can be done. Although there are some areas where additional research could be helpful, the key challenge remains the one described in the Institute of Medicine's landmark 1990 report *Broadening the Base for Treatment of Alcohol Problems*: "Suitable methods of identification and readily learned brief intervention techniques with good evidence of efficacy are now available. The [IOM] committee recommends that consideration be given to the broad deploying, in a wide variety of community settings, of identification and brief intervention capabilities, coupled with the referral of appropriate individuals to the specialized treatment system for alcohol problems." After 25 years, the present report identifies key barriers that slow the adoption of substance use screening, intervention, and treatment into routine practice. The report points to policies and practices that can speed the widespread use of these evidence-based practices. After a quarter-century, the promise of SBI can become a reality.[15-19]

INTRODUCTION

Federally qualified health centers (FQHCs) are non-profit, community-directed health centers that provide comprehensive health care to patients without regard for income or insurance coverage. These safety net providers offer primary and preventive care, mental health, substance use, dental, and pharmacy services to patients in high-need communities. Beginning in 2011, the Patient Protection and Affordable Care Act provided $9.5 billion in funding over five years through a dedicated health center fund to allow health centers to expand their operational capacities, with the goal of ensuring that the newly insured would have access points for care. There are currently over 1,200 health center organizations providing care to more than 20 million patients in over 8,100 locations dispersed across the nation.[20]

FQHCs often see and treat patients with substance use and other behavioral health concerns. FQHCs are positioned to routinely screen and provide brief counseling for risky substance use as part of primary care. A number of FQHCs around the country have been working to identify how best to integrate substance use prevention, early intervention, and treatment services into existing health care service delivery and how to adapt service delivery to minimize disruptions in health center operations. In doing so, the FQHCs have identified key barriers and facilitators that shape how and the extent to which substance use screening and brief counseling services can be routinely delivered. This project aims to better understand what those barriers and facilitators are and to identify opportunities for diminishing the barriers and best practices that facilitate the routine implementation of substance use screening and brief counseling. This report begins by briefly discussing the context of delivering behavioral health services, in particular, substance use in FQHCs, including the need for and evidence to support the use of evidence-based screening and brief counseling. This is followed by a description of the project and study methods as well as a discussion of findings synthesized from three primary activities: a literature review and environmental scan, key informant interviews, and FQHC site visits.

Federally Qualified Health Centers and Behavioral Health

All FQHCs that receive HHS Health Resources and Services Administration (HRSA) grant funding under Section 330 of the Public Health Service Act are required to provide referrals to substance use providers. With more than 75 percent of health centers providing onsite mental health and substance use services, more than 5.2 million encounters occurred in 2010.[20] Given that most FQHC patients are uninsured or Medicaid-insured, many of these patients likely would have gone unserved were the health centers not available. Further, a 2004 survey of health center directors revealed that centers without onsite behavioral health services reported more difficulty accessing specialty behavioral health services compared with those with onsite services,

particularly for their uninsured and Medicaid patients.[21] NORC's published study that projected FQHC behavioral health workforce needs found that in 2010, 98,760 patients received substance use treatment (only 0.05 percent of the 19.5 million persons served by FQHCs that year).[22] Of the 46,543 medical service full-time equivalents (FTEs) employed by the FQHCs, 854 FTEs were substance abuse treatment providers (1.8 percent). To meet the current need for substance use services for the estimated 357,632 patients with substance use disorders (SUDs) who used the health centers in 2010, an additional 931 FTE substance use treatment providers would be needed. To meet the substance use treatment needs of FQHC patients by 2015, we estimate that health centers would need to employ an additional 3,967 FTE substance use treatment providers, a 465 percent increase.[22] Yet in 2011, approximately 93,600 FQHC patients received at least one substance use service, down from 2010 figures, further exemplifying the vast need for substance use services.[23]

Individuals who seek behavioral health care overwhelmingly seek it from primary care providers (PCPs).[24] Decades of research have demonstrated the inseparability of behavioral and physical health, and new models that bring behavioral health providers (BHPs) into the primary care setting as members of the health care team are increasing the access to and acceptability of behavioral health treatment.[25] In fully integrated care, patients become accustomed to behavioral health care as a routine part of primary care.[26] Care provided in this manner has been shown to reduce stigma for patients, increase patient engagement, and reduce attrition after care is initiated.[27] Rural areas and underserved urban areas also benefit significantly from integrated care, since shortages of BHPs create long wait times for patients who need appointments.[28]

When behavioral health care is delivered in primary care, the quality of that care is frequently substandard and characterized by inadequate patient follow-up and monitoring,[29] especially among low-income populations and racial and ethnic minorities.[30] The National Comorbidity Survey-Replication[31] found that only 32.7 percent of patients who were receiving behavioral health services in primary care received at least "minimally adequate treatment."[32] Even more disturbing, a study of concordance between evidence-based primary care and the services actually delivered to a nationally representative sample found that the quality of care for patients with alcohol use disorders was the poorest among the 25 conditions studied; only 10.5 percent of patients with alcohol use disorders received recommended care.[33] A survey of primary care patients with diagnosable SUDs found that more than half reported that their physicians had done nothing about their substance abuse; 43 percent said their physicians never diagnosed their condition.[34] Only 10-20 percent of patients in primary care settings are screened for alcohol misuse,[35] making it one of the least commonly performed of the U.S. Preventive Services Task Force (USPSTF)-recommended clinical preventive services.[36] In the absence of screening, clinicians cannot reliably identify those with risky alcohol or SUDs.[37] Millstein and Arik found that between 23 percent and 43 percent of pediatricians and 14 percent to 27 percent of family physicians ask adolescents whether they use alcohol or drugs, but only 17 percent inquire more fully and systematically about substance use through a standardized screening instrument.[38]

The lack of regular substance use screening is not due to the absence of scientifically sound assessment and treatment technologies. In 2004, the USPSTF-recommended:

> "To prevent or reduce alcohol misuse, the USPSTF recommends screening and behavioral counseling for all adults, including pregnant women, in the primary care setting."[39]

A meta-analysis of the literature on the clinical efficacy and cost-effectiveness of the USPSTF prevention recommendations ranked screening and behavioral counseling in the top five.[4] The evidence-based approach to screening and behavioral counseling is commonly referred to as screening, brief intervention, referral, and treatment (SBIRT). SBIRT is a public health approach to the delivery of early intervention and treatment services for people with SUDs and those at risk for developing them (HHS Substance Abuse and Mental Health Services Administration [SAMHSA] http://www.samhsa.gov/sbirt). Screening (S) quickly assesses the severity of substance use and identifies the appropriate level of treatment. Brief intervention (BI) focuses on increasing insight and awareness regarding substance use and motivation for behavioral change. Referral to treatment (RT) provides those identified as needing more extensive treatment with access to specialty care.

Effectiveness of Opportunistic Screening, Brief Intervention, and Treatment in Practical, Real-World Primary Care Settings

After a comprehensive review of the primary care research on alcohol screening and brief intervention (SBI), the USPSTF recommendations[39] mirror those of the 1990 Institute of Medicine panel:

> Behavioral counseling interventions for risky/harmful alcohol use among adult primary care patients could provide an effective component of a public health approach to reducing risky/harmful alcohol use. Future research should focus on implementation strategies to facilitate adoption of these practices into routine health care.

The present report focuses on facilitators of and barriers to the adoption of SBIRT and ways to overcome those barriers. It is not a study of the effectiveness of assessing primary care patients for risky substance use and subsequent counseling, medical treatment, or specialty care. However, it is important to note briefly that these issues are not settled.

A comprehensive analysis of 361 controlled clinical trials of treatments for alcohol use disorders found that SBI in primary care was the strongest of more than 40 alcohol treatment modalities studied.[40] Other primary care studies concluded that reductions in substance-related health problems may exceed reductions in alcohol and drug consumption itself.[41] For example, one randomized study that assessed the effects of SBI after a 48-month follow-up found that the intervention group had a 20 percent

reduction in emergency department visits, a 33 percent reduction in non-fatal injuries, 37 percent fewer hospitalizations, 46 percent fewer arrests, and 50 percent fewer motor vehicle crashes compared with controls.[42] Relating to treatment methods, a meta-analytic review of 54 randomized control trials (RCTs) of primary care substance use brief interventions found moderate effect sizes (0.67) for alcohol consumption at three months.[43] Further, with a meta-analysis of controlled trials using clinical motivational interviewing, a core therapeutic technique in SBIRT, Burke and his colleagues identified five studies that examined the clinical and social impact of motivational interviewing on drug use: moderate effect sizes (d=0.56) on drug use and large effect sizes (d=0.90) on social outcomes such as substance-related work impairment, physical symptoms, and legal problems.[44]

An analysis of 24 systematic reviews that covered 56 RCTs of opportunistic SBI in primary care[45] found consistent evidence that brief alcohol interventions are effective at reducing hazardous and harmful drinking in primary health care.[39,43,46-50] The amount of the reduction of alcohol consumption after brief, risk-focused counseling is usually statistically significant, but it is not generally large.[51] How long reductions in risky drinking persist is poorly understood. Effect sizes are largest at the earliest follow-up points (3-6 months), and effects decay over time.[43,52-54] Nor is it clear how many brief sessions or how long individual sessions must run in order to reliably achieve reductions in risky alcohol use.[51,53-54] Generally, there are no differences in the positive effects of SBI delivered across a range of clinical professions from physicians to community health workers,[55] although one review found evidence that effect sizes are larger if SBI is delivered by physicians.[56] SBI appears to be equally effective for male and female risky drinkers,[39,48,57] although it may not be as consistently effective with women as with men.[58] Although there is some evidence of effectiveness among youths in college, the USPSTF determined that there is insufficient evidence to recommend SBI for adolescents.[51-52,59] Few studies have examined the impact of SBI for older adults.[51,53-54]

Several well-designed studies have found few or no differences between brief interventions and control conditions in reductions in risky use.[4,53-54,57] Three systematic reviews of SBI studies reached the same conclusion: patients enrolled in the control conditions who received only the screening and feedback or screening and information about risky drinking consistently reduced their at-risk alcohol use.[60-62] These results raise questions about whether the effect of SBI on risky drinking may be associated with a "Hawthorne effect" of being asked about drinking by a trusted authority. Another explanation could be regression toward a less risky drinking mean since heavy drinking can spontaneously decrease over time.[60-62]

The USPSTF did not find sufficient research to make positive recommendations about the effectiveness of SBI for reducing health risks with non-treatment-seeking alcohol-dependent or drug-dependent patients in primary care or with patients who used illicit drugs or prescription opioids in a risky manner.[4,43,47,49,59,63] There is little evidence that brief interventions alone for non-treatment-seeking primary care patients with alcohol or drug dependence or with substance-using patients with comorbid medical or psychiatric conditions[47,53-54,59] are sufficient to reduce risk or improve functioning.[64]

Pharmacotherapy, either alone or with medical advice or specialty care, can reduce substance consumption and reduce other health risks among patients with SUDs.[65-67]

Purpose of this Project

This project seeks to identify barriers to and facilitators of integrating SBIRT services into FQHCs, a setting that frequently encounters and treats patients who are coping with SUDs. Integrating behavioral health care, specifically substance use screening and treatment, into routine health center practices presents significant challenges. Commonly reported barriers include overloaded practices struggling to provide prompt access to medical care[68] and the concern that the time required for counseling and monitoring behavioral health patients will disrupt patient flow. Competing clinical and organizational priorities for PCP time and attention and the absence of patient demand for substance use services are often reported.[59,69-70] Many providers lack training and are uncomfortable dealing with substance use issues.[71-72] There is a chronic dearth of behavioral health specialists to provide patient consultation and an absence of behavioral health referral sources when they are needed.[28,73-76] Reimbursement barriers are pervasive, including: low reimbursement rates; inability to be reimbursed for a primary care and a behavioral health service on the same day; absence of reimbursement mechanisms for team-based care and care coordination activities; and provider panels that are restricted by managed care.[72,77-82] NORC's team, led by Drs. Goplerud and McPherson, utilized various qualitative research methods--a literature review and environmental scan, key informant interviews, and site visits to FQHCs--to illuminate key facilitators of and barriers to implementing SBIRT in FQHCs. Below is an overview of the study methods including the scope of analysis and descriptions of the key informant interviews and site visits. Study methods are followed by a synthesis of key findings and recommendations from the methods employed.

STUDY METHODS

Scope of Analysis and Discussion of the Methods

The NORC team utilized multiple qualitative methods to identify and analyze SBIRT implementation strategies and barriers in FQHCs. Conducting an in-depth literature review and environmental scan summarized research and evaluations in five core areas: evidence of the effectiveness of SBIRT on patient and cost outcomes; the prevalence of SBIRT practices in FQHCs and primary care settings; implementation challenges and barriers experienced by FQHCs and primary care; factors that support SBIRT implementation and sustainability including organization, reimbursement, and staffing; and reimbursement methods, components of electronic health records (EHRs), quality indicators and accountability systems that could be used to promote more widespread use of SBIRT.

Literature Review and Environmental Scan

In an effort to capture all relevant literature pertaining to implementation barriers to and facilitators of SBIRT in primary care and FQHCs, the research team completed literature searches in Medline (Ovid), CINAHL, PsycINFO, Web of Science, Embase, the Cochrane Library, Scopus, and WorldCat, as well as in various unpublished "grey" literature repositories qualified by language (English) and publication years (2002-2013). No geographic qualifiers were introduced. In addition, NORC incorporated a rolling "snowball" search of references of identified articles in order to identify any additional germane articles and conducted interviews with recognized experts in the field to identify additional literature. After multiple trial checks, the term "brief intervention" was determined to be the most effective way to retrieve relevant articles. The details of the literature search strategy are provided in an appendix to this report.

Articles were sorted into three categories that reflect the structure of the subsequent summary of findings:

1. SBIRT implementation in adult populations in primary care and community health centers.

2. SBIRT implementation in adolescent populations in primary care, community health settings, and school-based networks.

3. Medically assisted treatment (MAT) or pharmacotherapy integration in primary care and community health settings.

The review of articles and relevant materials resulted in 410 research articles and reviews pertaining to substance use/SBIRT implementation barriers and facilitators: 288

substance abuse/SBIRT implementation articles (adult), 31 MAT implementation articles, 38 substance abuse/SBIRT implementation articles (adolescent) in primary care/community health/school-based settings, five cost analysis articles examining SBIRT integration in primary care, 53 implementation science articles on substance use integration in primary care, and 19 international articles on substance use integration.

Key Informant Interviews and FQHC Site Visits

The research team also interviewed 30 experts who had applied and research experience with integrating substance use services into primary care settings and visited four FQHCs to conduct semi-structured interviews with clinical, administrative, operations, quality, and financial staff. Discussion guides for key informant and site visit interviews covered integrated service characteristics; billing, reimbursement, and funding climates; leadership support; training; staffing; relationships with SUD treatment and specialty care providers; health information technology and EHRs; outcomes and monitoring; and policies and procedures.

Key informants were recruited from a range of settings including FQHCs, primary health care associations, departments of family medicine, independent psychologists, primary care-behavioral health integration (PCBHI) consultants, SBIRT consultants, FQHC technical assistance providers, and government representatives (among others). Areas of expertise included knowledge of SBIRT, knowledge of SBIRT barriers and implementation strategies, knowledge of topics for at-risk substance use populations, knowledge of primary care delivery systems including FQHCs, implementation of evidence-based practices, knowledge of health care quality measures and reimbursement systems for SBIRT, knowledge of SBIRT implementation strategies by demographics (region, size, population), knowledge of "Healthcare for the Homeless" and other health care supplement programs, knowledge of substance use topics in disparity populations, knowledge of HRSA medically underserved areas and populations research, and experience conducting qualitative research (general, site visits, telephonic).

Based on recommendations from expert consultants, key informant discussions, the literature review, and input from the U.S. Department of Health and Human Services (HHS), Office of the Assistant Secretary for Planning and Evaluation (ASPE) and stakeholders, NORC developed a list of potential FQHC sites for onsite visits. Consultants and project staff contacted sites to gauge interest in study participation. A list was then prepared and presented to ASPE and stakeholders from which a final list of four recommended sites was determined: one FQHC each in Colorado, Virginia, New York, and Wisconsin. Scheduling the site visits posed challenges due to the nature of health care services at FQHCs; most experience high patient volumes, significant demand for services, and tight scheduling during peak seasons. Thus, staff and time constraints made it difficult for sites to find a half day or longer in which staff and providers could speak with the NORC team without causing disruption to clinical operations. Telephone interview scheduling presented similar issues, due to high patient flow, patient demands on time and resources, and busy clinical operations.

Descriptions of the four FQHC sites are included in the Summary of Findings section of this report.

Analysis of the Literature and Qualitative Data

Analysis of the literature and environmental scan, and of the data gathered from FQHC site visit discussions and key informant interviews, was conducted using the Consolidated Framework for Implementation Research (CFIR). The CFIR model is described below. The Summary of Findings section that follows provides a synthesis of the findings; it is organized by CFIR domains and concludes with a synopsis of facilitators, with recommendations and opportunities for improving the integration of SBIRT in FQHCs.

Consolidated Framework for Implementation Research: The Organizing Model for this Review

This report employs the CFIR[83-84] to organize the study findings on barriers to and facilitators of implementing and sustaining primary care screening for substance use risk and dependence, brief intervention, treatment, and care management. The CFIR consolidates multiple conceptual models of the health care diffusion of innovations[85-88] and is consistent with the National Institutes of Health framework for dissemination and implementation.[89-90] The model distinguishes five domains (the intervention, the outer setting, the inner setting, the individuals involved, and the process by which implementation is accomplished) and multiple sub-domains within each.

Intervention characteristics encompass seven sub-domains: the source of the innovation, the strength and quality of the evidence supporting it, the relative advantages the innovation provides, and its adaptability, trial-ability, complexity, design quality and packaging, and cost. The **outer setting** entails the economic, political, and social contexts within which an organization resides. These may include constrained funding, billing rules, and the influence of policies related to treatment and targeted populations. The **inner setting** comprises features of structural, political, and cultural contexts through which the implementation process will proceed. The **characteristics of the individuals** involved with the innovation include their knowledge and beliefs about the intervention, self-efficacy, individual readiness to change, individual identification with the organization, and other personal attributes. The **implementation process** encompasses the steps taken to introduce and sustain the innovation. The sub-domains entail planning; engaging opinion leaders, formally appointed internal implementation leaders, champions and external change agents; executing; and reflecting and evaluating.

Recently, Williams et al.[91] applied the CFIR framework to analyze the implementation methods used in eight published studies of alcohol SBI in primary care settings: (1) the World Health Organization (WHO);[92-96] (2) the Veterans Administration (VA);[97-99] (3) Cutting Back;[100-101] (4) Sweden;[102] (5) Oklahoma;[103] (6) Patient Powered

Research Network;[104] (7) the United Kingdom;[105-106] and (8) Georgia,[107-108] representing 533,903 patients, 2,001 providers, and 1,805 clinics. The SBI implementation studies used between seven and 25 of the 38 CFIR sub-domains. The intervention that achieved the highest percentage of completed substance use screens (93 percent) and that tied for the highest proportion of brief interventions (71 percent) was the VA's alcohol SBI program.[98] The VA program used more elements of the inner setting (12 of the 14 sub-domains), implementation (seven of the eight), and outer setting (three of the four) than did any of the other SBI implementation programs.

The present study extends Williams' analyses by using the CFIR framework to systematically assess barriers to implementing substance use screening and treatment in primary care and FQHCs and to detect strategies for overcoming those barriers. We first report our findings for adults. To highlight similarities and differences with adults, we break out separately studies that examined screening and treating adolescent primary care patients and studies of using medications to treat SUDs in primary care. The final section of the report employs the CFIR categories to display specific recommendations for truly integrating substance use screening, brief intervention, treatment, and ongoing care management into the routine practices of FQHCs. Findings from key informant interviews and FQHC site visits are integrated into the research reviews in the summary of findings.

SUMMARY OF FINDINGS:
FQHC SITES AND SBIRT PROCESSES

SBIRT implementation varied across sites. The description of the site and the SBIRT processes for each participating FQHC are summarized below.

Colorado

This site employs licensed behavioral health clinicians and contracts with local mental health centers to provide integrated care services. The mental health centers fund the integrated behavioral health clinicians as a means to increase their penetration rates. The focus of the integrated care program is mental health care, and there are no designated SUD treatment services offered within the organization. It is uncommon for one of their integrated BHPs to work with a patient with a SUD unless the patient also has a comorbid mental health condition. BHPs who are employed by the FQHC do not bill for behavioral health services through the Medicaid system, although uninsured patients are charged based on a minimal sliding fee scale of $0-$15 per visit. The cost of the integrated care services is absorbed by the organization because the services have demonstrated value, with some additional support from HRSA grant funding.

The BHPs maintain three roles within each clinic: (1) they verbally screen patients for life stressors, including anxiety, depression, substance use, and trauma; (2) they provide consultations, up to 20 minutes, based on screening results and referrals from the PCP; and (3) they offer therapy. Over the past several years, this site has implemented components of the substance use SBIRT process. In 2008, the BHPs received SBIRT training and began to incorporate SBIRT into their visits with certain patients using the Alcohol Use Disorder Identification Test (AUDIT) screening instrument; prior to this time, substance use was not formally assessed or addressed.

In 2012, the site received a contract from a local service provider to participate in the SBIRT Colorado initiative funded by SAMHSA. Through the contract, the site employs two full-time health educators, located in two clinic locations, to implement SBIRT and collect data for the initiative. In spring 2014, all medical assistants (MAs) were trained to briefly screen patients annually for substance use (tobacco, alcohol, misuse of prescription medications, and illicit drugs) and depression. The MAs currently ask each patient age 12 and older to complete a paper screening questionnaire that includes substance use questions and the Patient Health Questionnaire-2 (PHQ-2) depression screen. The MAs enter the responses into the patients' EHR. Patients who are scheduled for adult preventive appointments, well-child checks, chronic disease management, and obstetric visits are prioritized. BHPs are expected to follow up with patients who score positive in order to provide a brief intervention. At this site, SBIRT has been implemented in some clinic locations without the assistance of specific grant

or research funding. The site visit interview discussions focused on how the SBIRT model is utilized in clinic locations outside of the SAMHSA-funded SBIRT Colorado initiative.

Virginia

The leadership, providers, and staff of this clinic strongly recognize the importance of integrating behavioral health care into primary care. The integration process began with co-location and over time emerged as integration; this has taken several years, but at the time of the site visit, behavioral health services were seamlessly integrated into physical health services. Integrating SBIRT and other behavioral health services has not been without challenges including a lack of available providers to hire and a lack of access to specialty referral resources (e.g., psychiatrists). The clinic is set up to provide telehealth and intends to hire a psychiatrist and pediatrician who can provide onsite and telehealth services, including SBIRT. Hiring is difficult because salaries are lower and few professionals live in the area, and it is also difficult to recruit providers to relocate to the area. Despite challenges, it is clear that providing SBIRT and other behavioral health services routinely to patients within the existing capacity is a high priority.

There are several specialized mental health and alcohol and drug services available in the region; however, the clinic finds that many of the clients they serve often experience a number of personal challenges (e.g., reliable transportation, need for child or other family member care) that make it difficult for them to initiate or engage in mental health (and physical health) referrals. The health center has not been a recipient of a large, federally funded SBIRT grant. They previously received funding for a small pilot study several years ago to explore integrating behavioral health services, and their effort to integrate SBIRT was driven by this exploratory effort and by champions at the highest level of leadership, who recognized and promoted its use throughout the health center. Physicians, nurses, and licensed social workers received training in SBIRT-- fortunately, turnover has not been a significant issue--creating program continuity and opportunity for continuous growth.

The integrated behavioral health director is a highly experienced licensed clinical social worker (LCSW) and is integral to the delivery of all SBIRT services. The current director worked under the direction of the previous director, who led the initial effort to integrate SBIRT services across the FQHC. Physicians and nurses are engaged in screening and handing off patients to behavioral health staff to provide further SBIRT services. For medical appointments, clients are escorted to the exam room. As part of checking vital signs and recording the clients' concerns, the PCP (typically the nurse) is prompted by the EHR to ask about substance use and mental health using standardized questionnaires. Screening for risky alcohol use, drug use, prescription medication misuse, tobacco use, and depression is a routine part of care. Brief screening questions (e.g., the AUDIT-C and PHQ-2) are asked by the PCPs. If responses are positive, the client is immediately linked to an onsite BHP (typically an LCSW). Behavioral health staff introduce themselves and their role to patients with positive screens. They

administer the full screening questionnaires and, if warranted, provide brief intervention, brief treatment, and referral to treatment. Behavioral health staff maintain a statewide list of treatment resources and have established relationships with treatment providers. While patients may wait for services, the BHP can provide support by phone and additional intervention and counseling sessions onsite as part of subsequent follow-up visits. None of the clinics and few providers in the surrounding area have the capacity to provide MAT services for alcohol and opioid dependence.

New York

This site identified the need to integrate behavioral health into physical health care more than 15 years ago. At that time, the site contracted for a full-time social worker from a local addiction counseling and referral agency. Agency staff identified that the impetus for integrating SBIRT grew out of the clinical need of the migrant population. Starting as a migrant worker FQHC, this site identified this need when making home visits and providing services to migrant workers. They saw the effects of substance use on the population and also identified cultural issues around substance use. They also identified that even when they could engage patients in accepting substance use treatment, patients did not want to go to the addiction counseling and referral offices for services because of the stigma attached to a substance use problem.

This FQHC recognized that if they were going to provide effective substance use treatment, it needed to be incorporated within their service delivery system. Thus, this site started incorporating SBIRT before it became popular as an intervention. The site described what they were doing back then as "SBIRT lite." The focus was to assist the migrant population in understanding the consequences of alcohol use for the workers and their families when they went home. The SBIRT process has since been expanded and is fully integrated in only one clinic, where the substance use provider is located. The two other sites also have integrated behavioral health, although these sites have more of a mental health services focus and SBIRT for substance use is not as fully incorporated. This FQHC is taking action to improve the skills of the staff and to expand SBIRT more fully in the other medical sites. There are three LCSWs across six sites. Screenings are conducted on a routine basis, and if a problem is identified, the patient is introduced to the social worker, who will conduct a more thorough assessment to identify if there is a problem. Once a problem is identified, the social workers will determine whether the situation can be handled on a short-term basis at the site or if a referral is needed. Behavioral health and medical staff make joint decisions on treatment, which is facilitated by frequent hall discussions. The social worker is responsible for making any referrals that might be required.

Wisconsin

The clinic leadership at this site strongly recognizes the importance of integrating behavioral health care into primary care, but they have felt hamstrung by a lack of

available providers to hire and a lack of access to referral resources. The clinic previously had a psychiatric nurse practitioner on staff and now hopes to hire at least one mental health professional in the wake of its expansion, but hiring is difficult because few professionals live in the area. Thus, the clinic currently does not offer mental health services other than those delivered by its PCPs and the SBIRT services delivered by its health educator. The clinic finds it very difficult to make effective mental health referrals for its patients because there are few specialized mental health, alcohol, and drug services available in the six-county region it serves. Counties are obligated to provide services but only when sufficient funding is available, and often funding is lacking. Except for patients in crisis, waiting lists are common, and services lack breadth and depth. Finding services is especially difficult for patients who only speak Spanish.

The clinic was an early participant in the Wisconsin Initiative to Promote Healthy Lifestyles (WIPHL), which was established by a five-year SAMHSA state-based SBIRT grant between 2006 and 2011, and served as the primary training resource, training several health educators at the clinic over that grant period because there was high turnover. The most recent health educator left two months prior to the site visit. A MA is now filling that role but lacks the confidence to deliver services. The clinic has found that having only one health educator at a time has limited the number of patients served because the clinic is configured into two pods. The clinic hopes to hire a second MA and intends to have both formally trained in SBIRT, if funding or training resources become available. WIPHL no longer has grant support to provide training, and the site hopes to find support from the Wisconsin Primary Health Care Association, where WIPHL-trained staff currently work. This site attributes the start-up and ongoing implementation of SBIRT to its involvement with WIPHL's SAMHSA grant project; before that grant, the clinic employed health educators to help with health education, and SBIRT is now seen as an integral health education activity.

Prior to SBIRT, clinic receptionists asked all adult and teenage patients to complete an annual health history questionnaire, and before the clinic had an EHR, receptionists tracked questionnaire completion on chart folders; now the EHR prompts receptionists to ask patients to complete their annual questionnaires. As part of the national effort to enhance depression care through depression collaboratives several years ago, the clinic has also added the PHQ-2 to its annual questionnaire. As part of the process of escorting patients to exam rooms, checking vital signs, and recording patients' concerns, MAs check patients' responses to the questionnaires. If the alcohol/drug screen is positive, MAs notify the health educator that the patient needs to be seen. MAs ask patients with positive PHQ-2 screens to complete PHQ-9 questionnaires, and the PCPs address possible depression. Health educators introduce themselves and their role to patients with positive alcohol/drug screens. They administer the AUDIT and the Drug Abuse Screening Test (DAST) and deliver brief intervention as appropriate.

During the SAMHSA grant, likely dependent patients who were willing to obtain treatment were referred by phone to a centralized treatment liaison who maintained a statewide list of treatment resources, had established relationships with treatment

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providers, and excelled at matching patients with appropriate resources. While patients waited for treatment, the liaison provided support by phone. Since the grant expired, the health educators now notify their PCPs when patients' AUDIT or DAST scores suggest dependence. The PCP and health educator work together to find treatment for interested patients, but the referral process can take hours because access is so limited. During the SAMHSA grant, it became apparent that only about 10 percent of likely dependent patients were successfully referred to treatment. WIPHL recognized the need to bolster primary care services for dependent patients and offered training in pharmacotherapy to its participating clinics; this site was one of three clinics that participated. As a result, one physician was inspired to get trained to prescribe buprenorphine for opioid dependence, and he treated several patients; unfortunately, that physician is no longer with the clinic. Another physician has continued to deliver pharmacotherapy for alcohol dependence to several patients but is not interested in learning to prescribe buprenorphine.

The next section of this report provides a summary of findings organized by three focus areas: adult SBIRT, adolescent SBIRT, and MAT.

SUMMARY OF FINDINGS:
ADULT SBIRT IN FQHCS

Intervention Characteristics

The source of the innovation, the strength and quality of the evidence supporting it, the relative advantages the innovation provides, and its adaptability, trial-ability, complexity, design quality and packaging, and cost.

The CFIR identifies eight characteristics of an intervention that facilitate or hinder implementation health innovations: (1) **source**; (2) **evidence**; (3) **advantage**; (4) **adaptability**; (5) **trial-ability**; (6) **complexity**; (7) **design quality**; and (8) **cost**.[109]

Source

PCPs positively regard strong policy statements about innovations from government health authorities,[110-111] their professional medical societies,[71] and easily understood evidence-based practice guides as the most credible sources of clinical information.[71,111] SBI for risky alcohol use has been supported by many of the most highly regarded sources of medical information: the USPSTF,[39] the Robert Wood Johnson Foundation's *Cutting Back* program,[100] and federal health agencies including SAMHSA, the Office of National Drug Control Policy, HRSA, the VA, and the U.S. Department of Defense. A widely circulated *Clinician's Guide* from the National Institute on Alcohol Abuse and Alcoholism (NIAAA) instructs PCPs on alcohol SBI,[112] and in July 2014, the HHS Centers for Disease Control (CDC) released an operational guide to help PCPs integrate alcohol SBI into their practices.[113] A recent CDC study and related public relations initiative underscored the need for PCPs to better address their patients' unhealthy drinking.[114] In 2008, the American Medical Association determined that alcohol SBI is a primary care medical procedure and created Current Procedural Terminology codes that are now used by Medicaid, Medicare, and commercial insurers to pay for SBI. Although federal health authorities support SBI for drug and prescription medication misuse, decisions by the USPSTF not to endorse SBI for drugs due to insufficient controlled research and recent, well-controlled trials[115] that showed no clinical effects of drug SBI in primary care may blunt support for generalizing alcohol SBI to include other drugs.

Strength of Evidence

Despite the endorsement of alcohol SBI by credible authorities and dozens of RCTs, many PCPs are unconvinced that alcohol SBI and treatments for substance dependence are effective.[91,116-119] Many disagree with government definitions of "risky use" that warrant their clinical intervention,[12] and many express "therapeutic nihilism,"[120] that there is nothing they as primary care clinicians can do to help a person with an

addiction. Surveys of PCPs in several studies found widespread disbelief that SBI could be effective with their patients or that heavy drinkers or drug users in their practices could change.[117,119] The inconsistent results from SBI research likely contribute to the skepticism about the strength of the evidence for adopting it. McCambridge and Rollnick[121] observe that although researchers generally show that SBI reduces drinking, research does not usually find an impact of SBI on health service use or on other non-drinking, health-compromising behaviors. Little research demonstrates a clinical effect of screening and brief counseling for primary care patients who use illicit drugs, misuse psychoactive prescription drugs, or combine alcohol and other drugs, who have comorbid psychiatric conditions, and who are under 18 years of age or over 65.[4,43,47,49,54,59,63-64] Neither this disbelief in the strength of the evidence or ability to help patients nor disagreement with definitions of risky use was found among key informants or FQHC site staff. Moreover, many were aware of the gaps in the literature on effectiveness with patients who used illicit drugs and prescription medications for non-medical reasons and of the lack of a sufficient body of evidence to support routine use with adolescents.

Advantage

A PCP's expertise is in managing a wide breadth of problems;[17] PCPs are "specialist generalists." Although some SBI studies have shown reductions in risky alcohol use, reductions in alcohol-related injuries, economic benefits for employers and insurers, and fewer arrests and vehicle accidents,[4,6,8,39,43] these advantages are usually not obvious to PCPs. For the most part, SBI exemplifies the prevention paradox:[122] Preventive interventions may benefit public health at a population level but produce little clinically observable benefit to most individuals. In a 2013 *JAMA* editorial, Fineberg noted: "Prevention of disease is often difficult to put into practice. Among the obstacles: the success of prevention is invisible, lacks drama, often requires persistent behavior change, and may be long delayed; statistical lives have little emotional effect, and benefits often do not accrue to the payer; avoidable harm is accepted as normal, preventive advice may be inconsistent, and bias against errors of commission may deter action; prevention is expected to produce a net financial return, whereas treatment is expected only to be worth its cost; and commercial interests as well as personal, religious, or cultural beliefs may conflict with disease prevention."[123] Thus, SBI is a "hard sell." Providers' and patients' time, attention, and resources are limited.[111,121,124-127]

Key informants and FQHC staff echoed that selling SBI to providers and staff can be challenging and a slow process during the early stages of adoption but that as providers see patients' health improving as a result of SBI services, the value of SBI becomes more evident and the need to "sell" SBI dissipates. Some informants and FQHC staff, however, did not indicate that patients' time and attention were common barriers to conducting SBI. Most (but not all) patients seem willing to engage with the provider about substance use issues, although in some communities, the stigma of discussing it was a factor. Patients rarely present with specific substance-related symptoms or substance use service requests.[111,121,124] FQHC staff indicated that most

patients present with a range of health concerns but that rarely is the need specific to substance use and nor do patients request substance use services. FQHC staff recognized the important role they play in making the connection between substance use and health during a primary care visit that is focused on a completely different health concern. Most patients who benefit from SBI exhibit only slight reductions in substance abuse and do not exhibit dramatic improvements in health outcomes or functioning.[120] When comparing the relative importance of tobacco and alcohol as health risks that they should attend to in brief primary care visits, PCPs choose tobacco.[118] Key informants and health center staff indicated that addressing tobacco may be less difficult because it is a less stigmatized substance than alcohol or drug use, and tobacco cessation methods and products are more accessible than are other substance use treatments. Moreover, requirements to document tobacco screening and intervention make those screenings more likely.

For specific at-risk populations, SBI does produce observable benefits for patients in timeframes that clinicians can appreciate.[128] For example, in a study of prenatal SBI in primary care, Kennedy et al.[129] reported that an emphasis on assisting pregnant women to have healthy babies fostered buy-in in that staff valued helping women abstain from alcohol and/or drug use while they were pregnant so that their babies would be healthy. Goler[128] demonstrated that the perinatal SBI program Early Start improves maternal-infant health outcomes and leads to lower overall costs by an amount that is significantly greater than the costs of the program. In a series of systematic reviews, Turner and McLellan[41] link substance use and such common clinical conditions seen in primary care practice as diabetes, sleep disorders, hypertension, depression, bone disease, back pain (opioids), and lung disease (marijuana). But statistical relationships between substance use and medical conditions are difficult to act on in busy fee-for-service primary care practices, although newer models of patient-centered medical homes and accountable care organizations may elevate prevention efforts.[39,71,127,130-155]

Adaptability

Which components of SBI are core and which can be modified or omitted have not been settled.[116] Screening ranges from a single question, urine or blood toxicology screens, standardized questionnaires, and clinical impressions to structured research diagnostic assessments. Screening can be administered face-to-face (by physicians, nurses, community health workers, peer counselors, and others), self-administered with pen-and-paper, administered online and/or via computer, and using interactive voice response modes. Brief interventions range in length from a single session of less than five minutes to more than 15 minutes and may be conducted over multiple sessions. Brief intervention has immediately followed screening or lagged screening by a week or more. Computer, telephone, and face-to-face brief intervention have been tested. Participating study sites indicated that face-to-face brief interventions immediately following screening were most common; however, some sites indicated the need to build capacity to provide SBIRT services via telephone or other telehealth/telepsychiatry mechanisms, particularly in rural areas.

Health center staff indicated that adaptation and tailoring is happening at the clinic level even when sites have multiple clinics. Clinics are figuring out what works best within their operations and patient flows. This impacts the selection of screening tools (most commonly, a validated tool such as the AUDIT-C, AUDIT, NIAAA, or National Institute on Drug Abuse [NIDA] single-item screens), which provider (nurse, social worker, health educator, MA, or physician) will conduct the SBIRT services, and how many sessions will be offered. In some cases, this meant that more than one provider would deliver different components of SBIRT and conduct hand-offs within the office visit to the next provider (e.g., the MA or nurse, following the screening, hands off to the clinical social worker). Sites had varying perspectives on which staff member was best equipped to provide SBIRT services. As one site noted, doctors believe that BHPs are best equipped to offer brief intervention, whereas BHPs report patients are more likely to engage in brief intervention and follow recommendations when they come from the PCP. Other sites encountered similar discussions among staff surrounding the use of MAs and nursing and social work staff. In some cases, which staff performed each part of the SBIRT service delivery process was determined by what disrupted business operations and workflow and in other cases was influenced by perceptions of which staff would be most effective.

Each FQHC site utilized an EHR and indicated that integrating the substance use screening into the EHR was key to facilitating the implementation of services regardless of the type of provider. All sites agreed that electronic and integrated patient health records facilitated communication between providers and improved continuity of care, allowing for tracking service delivery and the need to follow up or address the issue of substance use at the next visit. The challenges, however, included training staff and transitioning from paper records to electronic record keeping, which were problematic and time-consuming. Overall, sites expressed that adapting to changes in patient record keeping, new workflows, integrated service delivery models, and adopting new practices were initial challenges that improved over time as staff became more familiar and processes were modified based on experiences on the ground.

Fourteen studies found adaptability challenges to implementing SBI. Requiring or expecting that SBI be administered to every patient was perceived by many clinicians as too burdensome in busy primary care practices.[116-117,156] Key informants and site discussions indicated that when components of SBI are delivered by more than one provider and do not rely solely on the physician, conducting SBI may be viewed as less burdensome and as enhancing services. Some preferred delivering SBI at wellness check-ups, at specific times of the year, or in response to patient symptoms.[156] Site visit informants suggested that decisions about how often to screen may be driven by a leadership perspective. In some sites, leadership felt it was critical to screen everyone and at every visit. At one site, however, SBIRT was perceived as a specialty service rather than a universal standard of care--its preventive and early intervention nature was not widely recognized or understood. The extensive intake and follow-up substance use questions required by federal grant programs were particularly seen as inflexible and disruptive of clinical flow.[157] Beich et al.[158] reported that PCPs resisted

implementing SBI out of concern that brief counseling would impede patient flow and add stress on overburdened PCPs but would also be insufficient to deal with patients' complex substance use problems.

Many studies of SBI implementation describe the substantial tailoring of interventions to fit local settings.[99,120,129,132,135-136,159-161] Such adaptations, described both in the literature and by key informants and health center staff, have included shortening alcohol and drug screening and assessment tools, embedding them in other questionnaires, administering them electronically, modifying them for cultural sensitivity, tailoring EHR systems, placing posters and brochures in exam rooms, reassuring patients with information on privacy and confidentiality, establishing and refining clinic workflow and documentation flow, delivering services by telemedicine, devising financial incentives for PCP participation, and establishing regular meetings to review program progress.[162] A study that tracked the course of the first cohort of SAMHSA SBIRT grantees[157] found that the programs had adapted: (1) from full-length screening questionnaires to shorter screeners; (2) from screening for substance use risk only toward screening for multiple risk factors; (3) from in-house generalist providers toward contracted specialist models; (4) from PCP settings toward high-volume emergency settings; and (5) from external referral for SUD treatment toward PCP management of care. Some of these adaptations were also made by FQHCs in this project. Adaptations including a short screen (often referred to as a "prescreen") such as the three-item AUDIT-C for alcohol use and the two-item PHQ-2 for depression were conducted to determine if use of a longer screen such as the full ten-item AUDIT or nine-item PHQ-9 were warranted. In addition, it was not uncommon to start with tobacco and then phase in alcohol screening followed by screening for multiple risk factors and expanding to other substances and emotional health concerns such as depression.

Trial-Ability

Trying out an innovation is easier if full commitment is not necessary from the outset. In the extensive review of SBI implementation studies, Williams identified two that specifically addressed trial-ability via pilot work. The WHO employed a four-stage process: development, training, piloting, and implementation. The VA program pilot-tested screening for unhealthy alcohol use,[98] a clinical reminder for brief intervention,[163] and several methods of measuring brief intervention performance before large-scale implementation.[97] Pilot testing gave the VA implementation team opportunities to test the intervention on a small scale, to revise or reverse course if warranted, and to build experience and expertise within the organization, in addition to time to reflect upon and test the intervention without having to fully commit to a specific strategy. Pilot testing also gave implementers in the New Mexico FQHC trial opportunities to adapt to local culture.[111] If PCPs must expand their teams to include SBI clinicians, the up-front costs may create trial-ability hurdles. Similarly, key informants and FQHC staff indicated that piloting the SBIRT workflow and modifying it as needed was important to integrating it into routine practice. Flexibility to adapt mid-course facilitated implementation and sustainability.

Complexity

The more complicated the innovation, the more challenging its implementation. SBI programs may require staff to take on new roles and responsibilities. For example, receptionists may be required to ask patients to complete questionnaires. Nurses or MAs may be tasked to make "warm hand-offs" of patients with positive screens to brief intervention counselors. PCPs may need to shift roles toward reinforcing patient participation in SBI counseling and managing SUD pharmacotherapy.[164] Others have implemented online screening, administered screens as part of the "rooming" (that is, social history and vital sign collection) process,[110,134,165-166] incorporated screening into brief nurse visits,[167] instituted prompts and screens by EHRs,[56,91,134,168] had MAs administer validated assessment questionnaires,[134] and incorporated SBI into similar services for other behavioral risks and disorders.[157]

The specific content, timing, and intensity of brief counseling that is necessary to achieve clinical change is not settled. A review of 24 systematic reviews of SBI in primary care that covered 56 RCTs[45] suggests that screening alone or screening with as little as five minutes of feedback and advice may be as effective as lengthy or repeated brief interventions. Another review found that brief intervention must include at least two of three elements--feedback, advice, and goal setting--to be effective.[169] Other studies find that more intensive motivational interviewing techniques involving engagement, focusing, evoking "change talk", and planning must be provided to achieve positive results.[121,170] A systematic analysis of 47 SBI studies did show that initiating brief intervention immediately after screening produced better outcomes than did delaying it.[17] Primary care patients who are not seeking substance abuse treatment rarely return for second or subsequent brief intervention services, reinforcing the value of immediately linking brief interventions and screening.[169]

SBI, a seemingly simple service, can be quite complex to implement in busy primary care settings. Shifts in workflow, staff responsibilities, and communication patterns to integrate SBI into primary care can be difficult.[101,158,171-173] Key informants and health centers indicated that a strong internal champion, open lines of communication to leadership and among staff, and an environment that was willing to adapt and shift course facilitate adoption and sustainability overtime, although this may not happen quickly.

Design Quality

The literature is generally silent about how SBI programs are bundled, presented, or assembled. In their systematic review of the effectiveness of brief alcohol interventions in primary care, Nilsen et al.[16] found only one study that had a well-developed communications strategy.[12,174-175]

One design challenge is that substance use screening often relies on pen-and-paper or verbally administered questionnaires that require scoring to assess risk.[120] Screening questionnaires are generally not part of usual PCP practice, in which

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diagnosis relies more on empirical observation, ad hoc verbal questioning, and lab tests.[120,176] Another design challenge involves integrating prompts to administer SBI into EHRs in ways that do not irk PCPs or hinder their other clinical work.[16,133,168] PCPs may simply turn off, ignore, or dismiss EHR prompts if they are not perceived as useful. Several SAMHSA SBIRT programs have invested significant resources into simple, elegant implementation designs. SBIRT Colorado[177] and SBIRT Oregon[178] make it very easy for PCPs to adopt SBI in their practices, providing screening tools, talking points, billing guides, information on workflow, scripts for various staff roles, and patient and clinician testimonials, as requested by PCPs.[71,111,179]

FQHC sites indicated that integrating all patient notes and treatments into one shared electronic record improves record access, continuity of care, patient tracking, provider response time, and communication between providers and speciality care, reduces health care costs, improves record confidentiality, and leads to staff efficiency and a more effective referral process. During site visits, staff offered a number of recommendations for enhancing EHRs to facilitate SBIRT implemention including building in clinical decision support tools and developing methods and incorporating tools to measure fidelity and quality and assess patient outcomes. Other suggestions included requiring companies that sell EHRs to FQHCs to include appropriate SBIRT data fields and reports in order to automatically generate quality measure data for internal improvement efforts and for Uniform Data System reporting; flagging systems for clinical quality measures to indicate when patient screens are due; and implementing patient confidentiality measures surrounding substance use. Some expressed that FQHCs should not have to adapt their own EHRs for SBIRT; the process is time-intensive and can take years; it is costly; and it is a difficult process to navigate. Some were aware of EHR vendors who had developed this capacity but did not know how to obtain the add-on modules and thought that more education and resources for FQHCs were needed to purchase existing modules and avoid "re-creating the wheel."

Cost

Costs to initiate and sustain SBI are substantial. Substantial staff time and economic costs are incurred in hiring and training new staff, setting up new workflows, training current staff in new responsibilities, exploring billing opportunities, and adapting medical record and billing systems. Opportunity costs are substantial, as well, because SBI must also compete with other demands on providers' and patients' time, attention, and resources.[111,124-127,156,158,180-181] Many feel that the workload to implement SBI is not balanced by observable clinical or financial benefits.[46,101,158] Neushotz and Fitzpatrick[172] suggest that SBI must show benefits that outweigh its costs to implement and sustain: benefits to patients in improved health and functioning, to clinicians in improved outcomes for their patients and improved clinical interactions, and to the institutions in improved reputation, efficiency, and resources. SBI models that are dependent upon researchers or external funding for their sustainability or are too complex and costly for continued use in practice will not be sustained even if they are found to be clinically effective.[119]

Interviews with key informants and health center staff revealed a number of recommendations for facilitating the implementation of SBIRT interventions in health centers. Below is a summary of those recommendations:

- Shift SBIRT and other behavioral health interventions from a diagnosis to a problem focus, with primary attention to improving functioning and quality of life.

- Use an integrated behavioral health consultant model; that is, integrate a behavioral health generalist with substance use training into primary care teams.

- Develop a standard model for SBIRT implementation across states and organizations, providing clarity and the opportunity for states to learn from one another's best practices.

- Consider paired visits in which primary care and BHPs work in the same area. Pairing behavioral health assessment of risky behavior during a primary care, pediatric, or perinatal visit highlights the areas of key importance and intervention for the PCP or behavioral health counselor.

- Use primary care appropriate language. Avoid referring to substance use and depression screening as "social history"; instead use "health history" or "health information". Avoid utilizing the SBIRT acronym because it creates confusion about the process and the target population. Avoid using stigmatizing language such as "addict" or "alcoholic."

- Ease the rigidity of SBIRT paperwork and protocols to enable more flexibility to match the timing and flows of primary care.

Outer Setting

The economic, political, and social contexts within which an organization resides (e.g., constrained funding, billing rules, and the influence of policies related to treatment and targeted populations).

The **outer setting** describes the environment within which health centers function. Key outer factors include **patient needs and resources, cosmopolitanism (**i.e., the availability and involvement of health centers with other health care and specialty substance use treatment providers), **peer pressure** from other health centers and competitors in the market, **external policies**, and **incentives**.

Patient Needs and Resources

Patient *need* for SBI is indisputable. People who drink alcohol in excess, use illicit drugs, or misuse psychoactive medications have elevated risks for a host of health problems, including violence-related trauma and injury, heart disease, breast and other cancers, sexually transmitted diseases, liver and pancreatic diseases, and fetal alcohol spectrum diseases.[39] Alcohol use causes about 88,000 deaths in the United States each year.[182]

Patient *desire* for services is less clear. On one hand, patients are willing to have PCPs ask about their drinking or drug use if substance use is related to their presenting concern or their risk of health problems.[117] PCPs and patients agree that certain office visits are more appropriate for SBI, especially those for physicals or wellness check-ups that also cover smoking, weight, blood pressure, exercise, etc.[117] Patients report that they respond more positively in these circumstances because these are contexts in which they expect to be asked about health behaviors.[117] Many PCPs believe that unless patients are able to directly link their substance use to their health or other problems, they will not respond to SBI.[18,183] Emerging in several recent articles is the increased willingness of PCPs to screen patients for non-medical use of prescription opioids, recognizing a shared responsibility for contributing to patients' misuse of psychoactive prescription medications.[130,184]

Cosmopolitanism

The web of relationships between primary care practices and external organizations affects the ability and willingness of PCPs to implement innovations[86] and the likelihood that innovations will be sustained.[77]

The external environment touches primary care in complex ways that impact adopting SBI. Government regulations and managed care contracting practices, accrediting and licensing requirements, and payment and funding streams powerfully affect the viability of integration options.[91,116] Instability among funders, regulators, and external SBIRT program managers can also adversely affect programs.[101,130-131] Tumult in political leadership and changes in state managed care contracts can severely disrupt referral pathways between health centers and community behavioral health care providers.[130]

Across the sites and key informant interviews, the issue of funding was a common theme. Funding and grants were seen as integral to sites' ability to provide SBIRT services, although the extent, sources, and uses of funding varied. One site had minimal start-up funds to initiate and pilot test services and then expanded its SBIRT program using no external funding. Other sites developed SBIRT programs with larger grants that supported all or most components of the program. Some interviewees indicated, however, that federal grant expectations and requirements are often resource-intensive and unsustainable in primary care setting. Overall, sites and interviewees supported "continued, expanded, and diversified funding." Diversification

through state and federal grants, foundations, partnerships, and taxpayer organizations were suggested as ways to provide more stability and allow organizations to submit proposals for a range of services with SBIRT built in. In some cases, funding was seen as necessary to pay for salaries (e.g., a health educator or LCSW) and provide resources to hire during periods of staff turnover, purchase computer tablets, pay for training, modify EHRs, and evaluate service delivery and patient outcomes (among other things). Sites and interviewees indicated that funding that supports sustainability is key. Without sustainability, a short-term grant mentality can develop among workers whose roles are short-term and who are paid solely by grants. A short-term grant mentality can also lead to hiring an applicant to perform a more narrow set of tasks that fulfills the specific requirements of a grant as opposed to hiring someone with a broader skill set, the "right" person who can fill a range of roles and responsibilities within the health center over the long term. Hiring for short-term purposes may create more of a disruption than build a sustainable, cohesive team for delivering services for the foreseeable future.

The scarcity of SUD treatment referral resources is repeatedly cited by PCPs as a reason for not screening for substance use.[116,130,135,160,172,181,185-188] PCPs describe local substance use treatment as physically inaccessible,[116,160] inconvenient, unaffordable, and of questionable quality.[135,160,186] PCPs report long wait times for their addicted patients to get seen, and the very limited intensive treatment discourages attention to substance use in primary care.[160] In some places, primary care practices and local specialty substance use treatment providers have forged close relationships, with positive results both clinically and financially.[91,103]

Interviews with key informants and health center staff indicated that the scarcity of, unfamiliarity with, and lack of coordination with referral resources are major barriers. Moreover, follow-up and patient record sharing with partners and community providers through an EHR or otherwise can be difficult to implement; health centers need to improve the follow-up protocols for high-risk patients and build relationships with specialty care providers that enable sharing patient information.

Sites in rural or less populated areas reported significant challenges with access to substance use services. Moreover, even when relationships with SUD treatment and specialty care providers did exist, other challenges were commonplace, including lack of transportation for patients and provider availability (long wait times). Conducting a proper warm hand-off, providing transportation, and conducting check-in appointments and calls between the initial visit and the appointment with the referral source were seen as important in overcoming barriers to connecting patients to the appropriate levels of care.

Discussions with health center staff and informants also brought to light several key needs including the need to identify strategies to increase care coordination and partnerships as well as to build treatment capacity internally. Care coordinators can act as care managers and liaisons to high-intensity care providers for patients who want or need specialty services. More partnerships are needed with specialty care organizations

to help heath centers divide up services and handle high-risk and complex cases. Building internal capacity by integrating more robust behavioral health services (including telepsychiatry) and co-location of more intensive treatment options (including MAT) were seen as potential strategies for overcoming barriers to providing care. Moreover, an internal warm hand-off enables more timely access to care and same-day referrals; providers can walk the patient over to the behavioral health consultant, psychiatrist, or treatment provider on the spot.

Peer Pressure

Competitive pressure among peer organizations can motivate organizations and providers to implement and sustain an innovation.[84] For example, peer pressure and financial incentives among VA health care settings resulted in rapid and sustained increases in alcohol screening. Monitoring systems that used external medical record reviews and patient satisfaction surveys provided monthly, quarterly, and annual performance dashboards, and dashboard results were reported publicly so that each practice manager could see his/her performance relative to all of the other networks. Not surprisingly, routine screening for risky alcohol use rapidly increased in frequency and has been sustained at high levels.[91,97,99,162,189-190]

External Policies

Governments, health insurers, and accrediting bodies can propel or inhibit the adoption of innovation.[191] For example, government funders often have separate policies for behavioral health and medical funding streams, with different provider and program licensure requirements, different service documentation and accountability requirements, different facility requirements, and separate clinical records.[71,191-193] Demonstration grant programs designed to launch SBI, such as the SAMHSA SBIRT program, require extensive accountability and performance reporting, which disrupts patient flow, frustrates clinicians, and forces a separate SBI specialist function that is often not financially and clinically sustainable after the end of grant funding.[157] Standard practices of insurers often require separate behavioral health coding and billing procedures from medical service billing and/or prohibit behavioral health personnel from billing for services in the medical setting without complicated prior approval procedures; pay behavioral health at levels below cost; or simply exclude payment for behavioral condition services due to pre-set, location-specific utilization management procedures. The HHS Agency for Healthcare Research and Quality study of 11 successful PCBHI programs found that policies that were external to the clinical settings severely undermined or completely derailed all but one setting: that exception was the VA, which operates as an integrated health system.[77]

Among the external factors discussed by health center staff and key informants, billing and reimbursement were cited as particularly significant challenges. Billing is difficult for health centers to understand and to navigate, and the structure needs to be reorganized and clarified. Health centers would benefit from more education on

reimbursement, being provided a matrix of the reimbursement process, and the standardization of reimbursement documentation across insurers.

Federal substance use privacy regulations impede care coordination between primary care and substance use services.[194-195] The federal rule known as 42 CFR Part 2 prevents the sharing of any information outside of a specialty substance use treatment program without the explicit permission of the patient except under very specific situations. The rule is widely perceived to hinder the coordination of care between PCPs and substance abuse specialists[181,191,196-197] and to prevent sharing clinical data, which is important for safe prescribing of potentially addictive medications.[198-199]

Incentives

At least 30 of the studies included in this review identified lack of reimbursement or inadequate reimbursement as a barrier.[17,71,77,100,116,119,125,131,135-136,160,168,181,183-186,192,196,198,200-207] Payers often do not reimburse PCPs or their staff for delivering behavioral health services, do not reimburse for same-day medical and behavioral health services, do not reimburse when behavioral health staff deliver services in medical settings, reimburse at levels below cost, or do not reimburse at all for SBI or similar services for other behavioral risks.[77] Lack of adequate reimbursement is the predominant reason given by PCPs and program managers for the failure of SBI to take hold.[17,71,100,119,135-136,160,168,181,183-184,196,202,207] Reimbursement rates are inadequate to support the costs for treating patients with addictions in primary care,[77,185,198,201,204] for providing continuing care and case management,[71,77,116,125,196] and for specialty substance use treatment referral resources.[125,130,135,160,172,181,185-188]

Interviews with key informants and FQHC staff strongly support findings from the literature--challenges with billing and reimbursement for SBIRT services are pervasive. Sites and key informants suggested that billing mentoring between FQHCs, redefining codes for FQHCs, and increasing and improving reimbursement rates for SBIRT services and care coordination are much needed. Furthermore, some indicated that value-based funding, cost-based reimbursement, and capitated and bundled payments that take the overall health of the population into consideration had shown better results. State service collaboration reimbursement that coordinates across populations rather than payers was also noted as having shown benefit for streamlining reimbursement structures. A number of interviewees indicated a need to shift away from fee-for-service billing models; at some sites, composite billing and the use of SBIRT billing codes for services and health educators showed positive benefits for billing processes. Additionally, patients and clinics were said to benefit from being able to bill for same-day services when clients received multiple services. Patient co-pays were also identified as a barrier. In some areas, if a BHP conducts SBIRT services, the patient must pay a co-pay but is not required to do so if the medical provider conducts the services. Additionally, there is a need to develop procedures for assisting non-Medicaid clients who decline services because they are unable to pay the co-pays.

Kautz, Mauch and Smith[193] identified seven barriers that consistently inhibit integrating of behavioral health into primary care and that are consistent with the information gathered from site visits and key informant interviews:

1. Medicaid and other insurers' limitations on payments for same-day billing for both a physical health and a behavioral health service visit.

2. Lack of reimbursement for collaborative care and case management related to behavioral health services.

3. Absence of reimbursement for services provided by non-physicians, alternative practitioners, and contract practitioners and providers.

4. Medicaid and other insurers' disallowance of reimbursement when primary care practitioners submit bills that list only a behavioral health diagnosis and corresponding treatment.

5. Inadequate reimbursement rates in both rural and urban settings.

6. Difficulties in getting reimbursement for behavioral health services in school-based health center settings.

7. Lack of reimbursement incentives for screening and providing preventive behavioral health services in primary care.

Government and health insurer coverage policies can powerfully shape providers' behaviors. The HHS Centers for Medicare and Medicaid Services (CMS) approved SBI as a reimbursable primary care procedure for Medicare beneficiaries in 2008 and included SBI as a 100 percent Medicare-reimbursable preventive service in 2012.[208] State Medicaid programs decide whether to cover SBI as a billable service and the types of providers that can bill those codes. About half of the state Medicaid programs have opted to reimburse for SBI,[136,209] but only 19 states have set up mechanisms to reimburse on the SBI codes.[209] As of 2010, 30 state Medicaid programs allow same-day billing for medical and behavioral health services.[71,196,204-205] How all of these issues come together can be seen in Padwa's[196] study of California county SUD administrators. The most commonly reported barrier to integrated substance use screening and treatment in primary care is inadequate or inflexible funding. More than nine in ten county administrators report that finding ways to adequately and sustainably finance integrated care is their major concern. California's Medicaid program does not reimburse for substance use SBI services, nor does it allow FQHCs to bill for both physical health and behavioral health visits provided to an individual patient on the same day.

Mike Brooks, policy director for the Center for Clinical Social Work, has a simple solution for the low levels of PCP adoption of SBIRT: "Pay them."[210] Several comprehensive analyses of reimbursement strategies to promote integrated behavioral

health care have been published recently.[77,193,211] Powell's,[211] Kautz's[193] and Kathol's[77] extensive structured literature reviews of strategies for implementing and sustaining integrated health/behavioral health innovations converge on several key issues, but they all come down to variations on Brooks' simple solution of paying providers.

FACILITATORS: RECOMMENDATIONS FROM KEY INFORMANTS AND FQHCS

Interviews with key informants and FQHC staff during site visits yielded a number of recommendations that are relevant to the outside setting for facilitating the implementation and sustainability of SBIRT in health centers. Below is a summary of those recommendations:

- Share information and improve communication between PCPs and specialty BHPs. Simplify the specialty care referral process, scheduling appointments, and follow-up once a referral is provided. Providing access to a shared EHR is helpful.

- Continue, expand, and diversify substance use screening and treatment funding. Most FQHCs used grants to start substance use services to pay salaries, bridge staff turnover, and fund EHR adaptation, but diversification of funding is essential for sustainability.

- Reorganize and clarify the reimbursement structure. A variety of funding mechanisms show better results for supporting prevention and behavioral health risk management: value-based funding, cost-based reimbursement, and capitated or bundled payments.

- Reimbursement documentation should be standardized across insurers, Medicaid, and Medicare; clarify what SBIRT services can be reimbursed; cover whole-person behavioral risk assessment and intervention (including substance use); and cover the extra care coordination and interviews that result from these screens.

- Facilitate billing mentoring between community health centers.

Inner Setting

Comprises features of structural, political, and cultural contexts through which the implementation process will proceed.

The CFIR model identifies five features of organizations' inner settings that influence their capacity to implement and sustain innovations: (1) **structural characteristics of the setting**; (2) **networks and communications**; (3) **culture**; (4) **implementation climate**; and (5) **readiness for implementation**. These characteristics describe whether the structures, internal communications mechanisms,

resources, leadership, and culture facilitate or frustrate adopting innovation and its fit into the organization.

Structural Characteristics

Although there is little systematic analysis of the structural characteristics of the settings in which SBI is attempted, there are good reasons to believe that size increases the likelihood that SBIRT will be adopted.[130,136,187,200,207,212-216] A 2011 survey by the National Association of Community Health Centers (NACHC)[215] found that FQHCs that integrated health and behavioral health care services had larger budgets, had more staff, and served more patients than did FQHCs that had more limited or no internal behavioral health services. Of the 1,199 FQHCs that reported service and budget data to HRSA in 2012, 229 reported employing substance use treatment specialists. On average, these 229 FQHCs had budgets that were nearly $7 million higher, employed more medical staff (77 versus 58), treated more patients (18,830 versus 15,091), and provided more service visits (64,532 versus 50,801).[216]

A second structural factor, workload, is the second most frequently cited barrier after reimbursement to adopting SBI.[13,17,45,117,124,126,158,217-218] Providers and primary care administrators repeatedly cite the high productivity requirements of their settings, the conflicting priorities that demand providers' time, and pressure to address patients' presenting complaints in the very brief time available in clinical visits as reasons that SBIRT is not done.[8,13,56,71,77,101,110,117,120,124,130,156,160,179,181,186-187,212,217,219-222]

Taking screening out of the physicians' hands and making it part of the routine rooming process was considered key to successful implementation in several projects.[8,160,200,220] A number of key informants and findings from the literature suggested delegating routine substance use screening and counseling to nurses, who see health promotion and care management as central to their training and organizational roles.[8,159,220,223] Primary care physicians may be unwilling to screen, but in several studies, PCPs report that brief counseling and patient referral are appropriate responsibilities for physicians.[8,160,220] Health workforce analysts are suggesting that primary care clinicians delegate preventive services--SBI, smoking, and depression and obesity screening and counseling--to non-medical staff.[212,224-225]

Other factors that inhibit integrating SBI into routine practice are high staff turnover and organizational instability.[103,116,133,135,182] Some FQHCs experienced turnover and difficulty hiring and training replacements. The literature and site visits also indicated that settings with low staff and leadership turnover appear to have less difficulty implementing SBI.[14,100-101,133,156,213] Office space is a significant issue in some settings.[82,136,215] One site suggested that infrastructure funds are needed to expand and reconfigure space to facilitate integrated care, including SBIRT services.

Network and Communication

In order for networking and communication to occur around patients' substance use risks and treatment, two types of communication may be needed: first, networking within the clinical team about patients' substance use risk and treatment, and second, communication between PCPs and substance use specialists. For the latter to occur, it is necessary that clinicians have opportunities to interact. Presently, opportunities for interaction between PCPs and SUD specialists are quite limited in FQHCs. NORC analyses of health centers' 2009-2012 annual reports to HRSA found that only 11 percent employed any substance use specialists.[215-216] While the average number of medical staff employed by FQHCs increased 16 percent from 2009 to 2012, and their medical patients increased by 28 percent to 15,091 in 2012, the number of substance use staff remained at low, stable levels, and the average number of substance use patients never exceeded 150.

Another opportunity for interaction between PCPs and SUD specialists in FQHCs is through common health records. These interactions generally do not take place in FQHCs.[136,172] In a 2012 study of 230 FQHCs that had integrated behavioral health and primary care, Goplerud and colleagues[215] found that three out of five FQHCs had integrated physical and MH records, but only three in ten integrated substance use information in their EHRs.[215] Few health centers include substance use diagnostic or treatment information in their EHRs.[82,203,209,215]

Researchers and primary care practices are exploring the use of online substance use screeners and EHR prompts to deliver brief interventions.[91,103-104,160,187,201,204,213,220] The evidence to date is mixed about the efficiency of pre-encounter substance use screening.[162,226] A recent series of meta-analyses[227-231] found that computer-delivered screening for risky alcohol use and computer-delivered feedback interventions reduced the quantity and frequency of drinking in student populations compared with assessment-only controls, and these computer-assisted interventions were as effective as other face-to-face alcohol interventions.

Culture

Peter Drucker once remarked: "Culture eats strategy for breakfast." The culture of primary care "specialist generalists," who manage a wide breadth of problems that are treated episodically, primarily in response to patient-initiated concerns and discomforts, may not fit the prevention and early intervention model envisioned by SBI advocates.[187] Primary care clinicians have little time to pay much attention to prevention or to ongoing care management for non-symptomatic conditions, whether related to the elevated risk of substance use-related harm or for other behavioral risks.[207] Inserting grant-funded, specially trained community health workers and health educators into primary care practices to screen for behavioral risks often is not sustained by practices once grant and start-up funds are exhausted.[71,77,232-233]

Organizational development consultation is being tried to assist health settings in redesigning their workflows to fit SBI into their cultures.[234-235] A workflow redesign process was used in 14 Baltimore FQHCs[235] to create site-specific SBI delivery models. In some, MAs administered the screening and risk assessment tools with patients and then the PCP reviewed the information and conducted the brief intervention. In others, the PCP conducted only part of the brief intervention for each patient and referred patients to internal behavioral health professionals for completion.

Implementation Climate

Six features of organizations' ability to embrace new ideas and face change shape FQHCs' ability and willingness to adopt SBIRT: (1) the degree to which stakeholders perceive that the current situation needs to change; (2) the fit between an innovation and the organization's values and workflow; (3) the perceived importance of implementing the innovation; (4) organizational incentives and rewards; (5) agreement on goals and feedback on performance; and (6) learning climate.[14,71,83,86,100,117,126,165-166,168-169,185,201,218]

Need for Change: Studies of PCP attitudes about implementing substance use screening and treatment suggest that few feel any great urgency to change.[14,126,185,236] In focus groups and surveys of PCPs, many feel that other health problems are more urgent or important,[185,236] that drinking is a personal problem for their patients to deal with,[185] and that substance use is a primarily a public health concern, not a clinical problem.[14,126] Concern about patients' risk of misusing prescription opioids and the responsibility that the health care system shares for contributing to patients' misuse may lead to a greater sense that current practices are unsustainable and need to change.[130,184]

Fit: PCPs consistently reported being under constant pressure to keep patients moving quickly through their examination rooms[100,166,168] and found that provider-initiated SBI was too onerous.[168] However, several studies suggest that SBI might be accepted if it fits into routine clinic workflows, does not disrupt the rapid movement of patients through the clinic, and does not compete with other organization priorities.[14,100-101,126,200,211,218,232-233,236-237] Similarly, key informants and site staff reported that as SBIRT services were piloted and the model was adjusted to fit into clinic workflows, the practice of SBIRT became part of routine operations.

Perceived Importance: Many researchers have described competing organizational priorities that derail SBIRT implementation.[100-101,110,127,133,181,204,218] Changes in the external environment can change perceptions of importance. Requirements by the American College of Surgeons Committee on Trauma and the VA system have enhanced perceptions of the importance of SBI delivery in trauma centers and VA health care settings.[97-98,190,238-241] HRSA has focused health center attention on SBI by requiring annual reporting and offering supplemental grant support, but requirements akin to those that affect trauma centers and VA settings are lacking.

Incentives: The extent to which health centers reward or provide other incentives for clinicians and administrative staff to screen and treat patients with substance use issues ought to impact uptake. In the VA, achievement of high levels of screening was associated with financial incentives for system leaders. Clinical reminders to screen and treat were adopted more readily by clinicians when the reminders were aligned with performance measures and supported by leadership.[242-243] Absent incentives, simply training staff in SBI and providing prompts to screen through an EHR result in inconsistent uptake.[99,160,218] It should be no surprise that SBI implementation studies of varied financial incentives found direct, positive correlations between the use of incentives and the proportions of patients who were screened and also who were screened as positive and who completed brief interventions.[101]

Feedback: Providing PCPs with direct feedback on their performance, when aligned with organizational priorities, can affect providers' behaviors. Williams'[91] CFIR analysis of 11 SBI implementation studies found that the VA, which used performance feedback, produced the highest rate of screening and among the highest rates of brief interventions among the programs that were studied. Feedback in the absence of financial incentives and organizational supports for SBI appears to reduce the effectiveness of feedback.[168]

Learning Climate: Organizations vary in their learning climates and in their receptivity to new knowledge and methods.[83] The sophisticated strategies used by the VA's SBI implementation group showed clear understanding of the need to respond to the organizational learning climate.[97-98,190]

Readiness to Implement

Readiness includes the commitment, involvement, and accountability of leaders and managers to implementing the innovation; the levels of resources dedicated for implementation and ongoing operations, including money, training and education, and physical space and time; and access to information and knowledge and how to incorporate it into work tasks.[83] Leadership is often cited as the defining characteristic of successful or failed SBI implementation.[99,135,200,203,207,213,244-245] Stable leadership and stable funding made it easier to implement SBI programs and resulted in the delivery of more screens and interventions. Leaving implementation to external experts or to 1-2 low-level staff was associated with struggle, conflict, and failure.[135] Williams'[91] analysis of SBI implementation studies found that the one that most clearly demonstrated leadership commitment to incorporating evidence-based management of unhealthy alcohol use also had the highest rates of screenings and brief interventions.[97-98,190,241] Similarly, garnering top-down support and having a strong internal champion were seen as among the most important factors for successful implementation and sustainability. CEOs and medical directors (not just providers) should participate in training. Familiarity with the organization's SBIRT protocols helps leadership recognize the utility of SBIRT and budget accordingly.

Interviews with key informants and health center staff yielded a number of recommendations that are relevant to the inner setting for facilitating the implementation and sustainability of SBIRT in FQHCs. Those recommendations are highlighted below:

- Fully integrate the staff who are responsible for behavioral risk assessment and intervention into the primary care team. Encourage joint treatment planning and shared medical and behavioral health information. Locate staff close to one another. Behavioral health staff should be moving in and out of exam rooms, interacting with PCPs and MAs, rather than sitting in an office.

- Integrate all patient notes and treatments into one shared EHR. This improves record access, continuity of care, patient tracking, provider response time, communication between providers, health care costs, record confidentiality, staff efficiency, and the referral process. Build clinical decision support tools into EHRs and develop methods to measure brief intervention, counseling, and outcomes in EHRs.

- High-level support and leadership are essential, and champions from medical, information technology, billing, nursing, and education departments are needed to facilitate smooth implementation. If you get the doctors behind you, you are going to be successful. Frame SBIRT as an organizational priority.

- Focus on quality, with behavioral health team members taking all clients of any age and with any issue. Initiate a "we ask everybody" campaign.

- Clearly define primary care and BHPs' scopes of service and the time to perform defined tasks. Develop workflows so all know who will do what, when, and where, and who the backup person is. The EHR should be built based on the workflow.

- Prevent screening overload. Providers often do not have time to address more than what patients present with.

- Ensure patient confidentiality in EHR and patient communications. Ensure that behavioral health information, including substance use, is gathered and documented in ways that maximize confidentiality while sharing within the treatment team what is necessary for safe, quality care.

Characteristics of Individuals

Knowledge and beliefs about the intervention, self-efficacy, individual readiness to change, individual identification with the organization, and other personal attributes.

The CFIR points to the critical role that the individuals who make up organizations play in implementing and sustaining SBIRT, and it emphasizes five domains related to individuals: (1) **knowledge**; (2) **self-efficacy**; (3) **readiness to change**; (4) **individual identification with the organization**; and (5) **other attributes**.[70]

Knowledge and Beliefs

Many PCPs lack knowledge of substance use screening tools and healthy versus unhealthy drinking guidelines,[91,116,124] risks associated with episodic and chronic drinking and drug use,[13,131,160,183,201,203] screening and interpretation of screening results,[59,91,116,133,166,169,185,203,246] counseling and motivational interviewing techniques with high-risk and dependent patients,[13,91,103,106,118,120,156,166,183,185-186,246-248] pharmaceutical treatments for dependence,[118,124] referral processes, and community substance use treatment and recovery support resources.[246] Many feel unprepared and unwilling to ask about patients' substance use or to treat the problems that screening may disclose.[15,160,169,179,203,219,249-253] Few are aware of research evidence on the differences between effective and ineffective therapies[119,126] or on the effectiveness of psychosocial interventions by non-medical clinicians.[124,204,246] Many believe that if they administered SBI, they would provoke negative reactions from patients,[8,117] and without appropriate skills, they might.[135,186-187,207]

FQHCs employ few substance use treatment specialists. More than 80 percent employ none.[254] The absence of substance use specialists in FQHCs may contribute to medical staffs' lack of knowledge about substance use issues. A recent FQHC behavioral health staffing needs assessments by the NACHC found that health centers would have needed to employ an additional 931 FTE substance use treatment specialists to meet current patient needs in 2010. Health centers would need to employ nearly 4,000 more substance use specialists to meet expected projected need by 2015.[255-256]

A survey of medical residency training program directors in seven medical specialties found that although 56 percent reported having received required curriculum content in preventing and treating addiction, the median number of hours ranged from 3 (emergency medicine and obstetrics/gynecology) to 12 (family medicine).[257-258] Only about 20 percent of practicing physicians report feeling very prepared to discuss drug and alcohol issues with their patients.[259]

Some suggest that assigning SBI as a standard of practice for nurses may fit with core nursing principles and training.[120,133,159] Presently, baccalaureate nursing students receive an average of 11 hours of education on substance use issues, not enough to effectively deliver substance use screening and treatment according to nursing workforce researchers.[260-263] Social work students receive little formal SBI training in BSW and MSW programs.[264-268] More than half of practicing clinical social workers report that they need more training in substance use issues.[267] In most states, addiction is not a required element of psychologists' training.[269] Health centers that wish to take a team approach to SBI may find few staff prepared to assist.[77,157,169] One FHQC, intent

on developing an integrated behavioral health service, collaborated with a local university to start an integrated care psychologist training program and offered itself as an internship and practicum site.[270]

Improving the preparation of primary care professionals to screen and treat patients' substance use issues is a priority of several federal agencies. HRSA and SAMHSA supported a faculty development and mentoring program that reached more than 10,000 PCPs between 1999 and 2005. SAMHSA funds medical residency and interdisciplinary health education programs to provide substance use SBI education.[271] SAMHSA also supports a national SBIRT training program, the National SBIRT Addiction Technology Transfer Center, which is charged with educating students in health care disciplines and practicing clinicians.[272] In addition, SAMHSA supports continuing education for PCPs on the use of medications to treat opioid dependence.[273] The NIAAA developed a series of online training guides and videos for clinicians.[274] NIDA has also developed NIDA-MED, an online source of tools, resources, and trainings to support physicians and other health professionals to screen and treat their patients with SUDs,[275] and it awarded a contract in 2014 to train at least 28,000 health professionals on adolescent SBIRT.[276] More than 30 nursing schools, social work departments, and their accrediting bodies are collaborating to develop and test substance use prevention, screening, and treatment curricula.

Self-Efficacy

An individual's belief in his own capabilities to screen or manage patients with risky alcohol or drug use affects decisions to do so and to commit to using SBI even in the face of obstacles.[169,172,185] A review of systematic reviews by Hyman[169] identified six obstacles to competent delivery of brief intervention that revolved around lack of self-efficacy and knowledge: confusion regarding the content of brief intervention, lack of belief that the PCP could do it, insufficient time, lack of simple guidelines, perceived difficulty identifying risky use, and uncertainty about justification for starting the discussion. Kaner and her colleagues[96] found that 77 percent of PCPs surveyed reported that it was important or very important to intervene with patients who report unhealthy alcohol use, but only 21 percent of physicians felt that they could do so.

Readiness to Change

Training increases the delivery of brief interventions by PCPs who are already committed to working with drinkers,[16,110,172,219] but many primary care clinicians do not perceive substance use screening or counseling as something they care to do or need to learn.[171] A study of the 340 PCPs who participated in the WHO multinational study of SBI found that training and support only increased SBI rates for those who were already committed to change.[15] For those who were not committed to change and secure in the belief that their roles included attention to patients' substance use, SBI training failed to increase willingness to deliver SBI services, and it actually decreased providers' confidence in doing so.[15] Training, experience, seniority, and organizational support for SBI do increase clinicians' motivations to deliver SBI and to act on those

motivations.[8,119,184,277] Pre-professional training[260,264-269] and continuing education for practicing clinicians do result in small changes in knowledge, skills, attitudes, and activities.[119,278] Training appears to be more effective in changing knowledge and behaviors than attitudes, beliefs, and readiness to change.[278]

Individual Identification with Organization

How individuals perceive their organizations and how willing they are to put in extra effort speak well of the organization, and individuals' willingness to take risks in their organizations could influence their willingness to embrace an innovation if their organization adopted it.[83] This area has received little attention in the SBI implementation research literature. There is some evidence that PCPs who perceive that their organizations support and encourage working with substance users are more willing to treat patients with substance use problems[279] and are more likely to report satisfaction with their interactions with these patients.[279] Feeling that one's organization supports SBI is associated with greater self-esteem, perceived knowledge, and feelings of empowerment among health professionals.[279-281]

Other Personal Attributes

Although there is not a great deal of attention being paid to other personal attributes of PCPs that may influence their willingness to deliver SBI, there are indications that clinicians judge patients' drinking against their own personal use of alcohol.[127,282] Five studies have confirmed that primary care clinicians with more personal or work experience with people with alcohol or drug use disorders report more positive attitudes towards treating patients with substance use risks.[219] There is some evidence that female PCPs and older clinicians are better at identifying problem drinkers.[283]

FACILITATORS: RECOMMENDATIONS FROM KEY INFORMANTS AND FQHCS

Interviews with key informants and health center staff yielded a number of recommendations related to individual characteristics for facilitating the implementation and sustainability of SBIRT in health centers:

- Revamp primary care training. Approach PCPs using their language and from the point of view of a provider. Utilize role-based protocols for training and a strong PCP orientation to behavioral health screening, brief intervention, and treatment. Conduct behaviorally based conversation training with standardized dialogues to increase patient and provider comfort. Frame SBIRT as a natural part of what a PCP already does.

- Revamp behavioral health clinician training to make clinicians consultants. Place greater emphasis on brief intervention. Behavioral health clinicians must know how to communicate and work in an integrated, fluid, medical setting; have skills

in motivational interviewing and cognitive behavioral therapy; and know how to record primary care notes and use medical terminology.

- Create a sustained substance use and behavioral health training and consultation center, with a common SBIRT and behavioral health training curriculum and organizational consultation capacity. State primary care associations can identify FQHCs that excel in SBIRT and behavioral health; encourage staff from other clinics to learn by observing and getting consultation.

Implementation

Encompasses the steps taken to introduce and sustain the innovation.

The fifth domain relates to the implementation process itself. The CFIR framework identifies four essential activities: **planning**, **engaging**, **executing**, and **reflecting and evaluating**.[83]

Planning

A common deficiency in SBI implementation is insufficient time and attention devoted to workflow, to building cross-disciplinary relationships, and to educating and preparing staff who will not jeopardize implementation.[77,284] Interviews with leaders and staff involved in the first cohort of SAMHSA SBIRT grants[157] determined that programs had too little time between the grant award and the required start of clinical services to train the staff who would be implementing the SBIRT services or to prepare other staff for the innovation. Short start-up time hindered the programs in developing the trust and partnerships with community substance use treatment programs that would be needed once the programs started for referrals of difficult cases identified by screening.

Engaging

Helpful engagement strategies include involving opinion leaders, internal champions, and external change agents; obtaining clear mandates and consistent support from senior administrative and clinical leadership; maintaining stable clinic leadership; setting regular meetings to review implementation; facilitating new ways of working together for various staff segments; and intentionally supporting camaraderie and culture change.[83,91,101,129,160,200,203,207,285-288] Clinic leaders should engage in on-the-job coaching with actual patients, discuss worst-case scenarios, and employ impromptu coaching.[94,105,129,135,160-161,287] External change agents can help by using their personal influence to elicit support and cooperation, conducting staff training, helping to sustain fidelity to the intervention model, and participating in the project launch.[232,284]

Executing

Few programs are implemented exactly as planned, and flexibility is key. Vendetti et al.[157] observed that SBI programs make significant modifications over time in response to unanticipated challenges. To increase the likelihood that SBI will be sustained once it is undertaken, programs have built screening and brief counseling prompts into their EHRs,[285,287] provided hands-on consultation and coaching over time,[161,169,285] changed incentives,[124] and provided timely feedback to clinicians and supervisors.[77,91,116,124,160,286,288]

FACILITATORS: RECOMMENDATIONS FROM KEY INFORMANTS AND FQHCS

Interviews with key informants and discussions with health center staff yielded a number of recommendations related to facilitating the implementation and sustainability of SBIRT in health centers:

- Provide education prior to and during implementation to address the clinical benefits of the model, and teach providers ways to talk to patients about sensitive issues. Encourage a functional approach: not treating a disease but improving functioning and quality of life.

- Utilize robust tracking systems. Organizations that monitor substance use screening and treatment produce higher SBI rates, more positive screens, and better patient outcomes. Reward providers for improved performance measured through tracking systems. But avoid tracking overload and creating time-consuming data entry.

- Provide the tools to effectively implement SBIRT, such as readiness rulers and decisional balance tools. Use pocket-sized decision support guides such as the Brief Negotiated Interview.

- Provide onsite behavioral health trainers during implementation to assist in tweaking interventions to the site's workflow, staffing, and priorities and to problem solve EHR and tracking issues as they emerge.

SUMMARY OF FINDINGS:
ADOLESCENT SBIRT IN FQHCS

Adolescent alcohol and drug use is a public health concern and a major contributor to health problems among youth, including smoking, at-risk sexual behavior, impaired driving, depression, low academic achievement, delinquency, and violence.[289-295] Adolescents who drink are at higher risk for developing substance abuse disorders later in life, with risk increasing as age of initiation of alcohol use decreases.[293,296-303] The prevalence of adolescent SUDs is 8 percent,[304] and more than double that, 19 percent, among adolescents who have ever used alcohol or drugs.[269,289] Some research indicates that alcohol SBI is effective as an early identification and prevention approach to reducing underage drinking[294,305-308] and use of substance.[309-312] But studies are inconsistent and effect sizes are small.[313] Over the last 15 years, national and international public health agencies and medical professional associations including the U.S. Surgeon General,[293] the NIAAA,[314] the WHO,[133] the American Medical Association,[315] the HRSA Maternal Child Health Bureau, Bright Futures,[316] and the American Academy of Pediatrics[292,317] have called for adolescent health care providers to routinely screen adolescents for alcohol and drug use and to provide brief preventive and early intervention counseling. However, the USPSTF has so far concluded that the current evidence is *insufficient* to assess the balance of benefits and harms of SBI among adolescents in primary care.

Fewer than half of pediatricians systematically screen adolescents for alcohol or other drugs,[240] citing as barriers lack of time, inadequate reimbursement, lack of training, and uncertainty about referral sources.[240,318] Few adolescents who already meet the criteria of a SUD or who use substances in high-risk manners are identified early or receive treatment they could benefit from. The National Survey on Drug Use and Health[304] finds that only 7 percent of adolescents who could benefit from treatment for their SUDs actually get that care.

Using the five dimensions of the CFIR model, we systematically evaluated the research on integrating alcohol and drug screening, brief intervention, and treatment into primary care practice. Few studies of adolescent substance use SBI have been conducted in FQHCs. The previous CFIR analyses of barriers to and facilitators of adult SBI likely hold for adolescents, but some specifics will be highlighted.

Intervention Characteristics

The source of the innovation, the strength and quality of the evidence supporting it, the relative advantages the innovation provides, and its adaptability, trial-ability, complexity, design quality and packaging, and cost.

School-based health centers and other PCPs who treat adolescents are more likely to adopt SBI if the clinician perceives the intervention as: (a) having a strong theoretical foundation and clear conceptual basis for interpreting normative and non-normative patterns of adolescent development; (b) including strong research backing; (c) providing accurate knowledge regarding development, maintenance, and consequences of problem behaviors as well as developing adolescent skills and competencies that can replace targeted behaviors and protect students from their onset; (d) combining psycho-education and skill building; (e) optimizing timing, duration, frequency, and intensity of interventions, with early exposure prior to the onset of the target problem; (f) fitting into the education goals of schools or practice goals of health care providers; (g) maintaining fidelity through manualization and ongoing monitoring; (h) standardizing intervention delivery techniques for the staff; (i) involving teachers or primary care clinicians in adapting SBI to their unique environments; (j) designing materials and program components to engage youth; (k) using non-school personnel to facilitate acceptance and fit; and (l) ensuring that interventions are age-appropriate and developmental-stage-appropriate (i.e., abstinence for younger adolescents, binge drinking hazard reduction for older adolescents, and exclusively alcohol use for late adolescents and young adults).[319-321]

In school-based health centers[319] and in rural[322] and urban primary care practices,[308] computer-assisted screeners and video game-style programs tailored to students' demographics and language preferences have successfully been used to engage students in SBI interventions and led to higher identification rates compared with self-report pen-and-paper tools. Interventions that alerted adolescents that their PCP check-up would include a discussion of substance use, and that prompted PCPs to bring up substance use with youth, facilitated better communication.[323]

Lack of adequate screening tools has also been identified as a barrier, although the CRAFFT tool is gaining acceptance generally. Other validated brief screening tools are available for use in primary care including the Global Appraisal of Individual Needed-Short Screener and the Adolescent Drinking Index. Electronic or computerized screening and integrating screening into EHRs may facilitate wider use of these tools and lessen workflow disruptions and the need for practice change in primary care settings including FQHCs.[322,324-325] Lengthy screening questionnaires, whether written or online, will not be used.[308,326]

Outer Setting

The economic, political, and social contexts within which an organization resides (e.g., constrained funding, billing rules, and the influence of policies related to treatment and targeted populations).

Adolescents and their families may be ambivalent about SBI. Gordon and his colleagues[322] found that parents, families, and PCPs who perceived social norms to be tolerant of adolescent substance use; a community culture of alcohol use and positive

attitudes toward drinking; parental drinking and willingness to provide adolescents with access to alcohol; and the lack of non-drinking alternative programs and activities for adolescents inhibited the acceptance of adolescent SBI in rural communities.

States that foster state-community initiatives on adolescent substance use and that support connecting school and pediatric practices with community substance use programs increase the uptake of adolescent screening. Kuhlthau and colleagues[327] suggest that a multiyear effort to forge relationships between BHPs and PCPs who treated adolescents in Massachusetts, in addition to PCPs' access to an enhanced array of adolescent behavioral health services (emergency services, mobile crisis teams with 72-hour follow-up support, intensive care coordination, in-home care teams, and behavioral health consultation teams) encouraged PCPs and pediatricians to screen their adolescent patients. State Medicaid mandates to use specific screening instruments increase provider screening and the rates of identifying youth with risky substance use and referring them to specialty services.[327]

Getting paid is key to adolescent SBI. The financial sustainability of SBI is a consistent problem in school-based health programs.[319,324] Clark and Moss's study of adolescent SBI across a wide array of settings[308] found that even when payment is available, reimbursement rates and actual payments received for adolescent SBI services delivered are rarely sufficient to cover the skills and time required to deliver the services. Health insurance and Medicaid reimbursement for school or health center screening and treatment strongly predict uptake.[319] In one project, despite Medicaid reimbursement rates that were adequate to sustain SBI counselors and a supervisor in a school-based health clinic, insurance requirements that parents/guardians be notified nearly defeated the program. The SBI program was successfully implemented because great attention was given to informing all stakeholders about it (the school board, teachers, parent organizations, individual parents), the offer to parents of an easy "opt-out" from screening, and a strong positive relationship between the school system and a local substance abuse treatment program that staffed the SBI program in the school health center; all were regarded as essential to successfully opening SBI in school health clinics. The absence of readily available referral sources for adolescents identified as needing specialty care is frequently cited as a barrier to implementing adolescent SBI programs.[322,328] Support from outside the school or health center, from parents, the government, or community organizations, may be essential for getting schools or PCPs to start SBI programs.[320]

Inner Setting

The structural, political, and cultural contexts through which the implementation process will proceed.

Factors cited as the biggest barriers to implementing adolescent SBI include insufficient time and training; limited access to referral options; competing needs to triage youths' other medical conditions; privacy, including the inability to have

conversations about substance use with parents/guardians in the room; and confidentiality policies and regulations including fear that documenting substance use in EHRs will adversely affect adolescent patients.[319,322,325,328]

School-based health programs generally consider treatment to be beyond their scope of services. SBI implemented as prevention, or even counseling, is more acceptable and less disruptive than treating adolescents with SUDs. Care must be taken to minimize role conflicts, role overload, and ideological conflicts for the school staff who assist in implementing program components. Delivery of SBIRT services must not be seen as interfering with educational activities or school attendance; services should be delivered during non-academic periods and physically located in the school. Careful considerations should be made to ensure that confidentiality and privacy procedures are in place and customized to school settings and operations.[319-320,329]

Characteristics of Individuals

Knowledge and beliefs about the intervention, self-efficacy, individual readiness to change, individual identification with the organization, and other personal attributes.

Clinicians are unsure of how to screen and counsel adolescents about substance use. Nearly half of primary care clinicians who treat adolescent patients believe they are insufficiently trained to deal with patients' substance use.[322] Many rely on informal screening for risky substance use rather than using validated screening tools. Compared with other health issues among their adolescent patients, providers report less knowledge about substance use treatment and less certainty about their skills and abilities to address their patients' substance use. Surveys of providers suggest that they are reluctant to ask about substance use because they are unsure about what to do with the information, they lack the skills to intervene with risky use, and they are unprepared to diagnose alcohol or drug use disorders.[322,324-326]

On the other hand, providers are likely to implement teen SBI if they believe that routine screening for alcohol use should begin early, that adolescent alcohol consumption is a significant health problem, that treatment resources are available should their patients need them, and that primary care settings are good places for identifying risky use and counseling risk reduction.[319,322,327]

Implementation

Encompasses the steps taken to introduce and sustain the innovation.

Planning SBI implementation to avoid disrupting patient flows and workflows and to minimize interference with classes or school operations is essential in school-based health SBI. Projects that prepare concise, specific guides for clinicians and workbooks for youth and that conduct focus groups to test the usefulness of manuals and

processes see improved uptake and sustainability. Simple metrics for monitoring clinicians' delivery of SBI, feedback, and clinical supervision have been found useful. As with adult SBI implementation, practice management systems and electronic medical record systems that prompt providers to screen and manage adolescents' substance use and that automate billing facilitate SBI programs.[319-320]

SUMMARY OF FINDINGS: PHARMACOLOGICAL TREATMENTS OF SUBSTANCE USE DISORDERS IN PRIMARY CARE

Pharmacotherapy, often referred to as medically assisted treatment, has a strong evidence base in the treatment of opioid[330-331] and alcohol dependence.[332] Research has consistently demonstrated that methadone, buprenorphine and naltrexone are effective in reducing the craving for opioids and alcohol, increasing retention in substance use treatment, reducing alcohol and opioid use, increasing alcohol-free and opioid-free days, and reducing mortality and HIV risk.[333] Currently, there are four medications that have been approved by the HHS Food and Drug Administration (FDA) for use in treating alcohol dependence: disulfiram (Antabuse®), oral naltrexone (Revia®), acamprosate (Campral®), and an intramuscular once-a-month naltrexone injection (Vivitrol®). In the 2006 COMBINE study, the largest RCT of the effectiveness of pharmacotherapy for alcohol addiction,[334] eight groups of recently diagnosed patients with alcohol dependence received medical management with 16 weeks of naltrexone or acamprosate, both, and/or two placebos, with or without a combined behavioral intervention (CBI). A ninth group received CBI only (no pills). Patients who received medical management with naltrexone, CBI, or both fared better in drinking outcomes, whereas acamprosate showed no evidence of efficacy with or without CBI. No combination produced better efficacy than naltrexone or CBI alone in the presence of medical management. Naltrexone with medical management could be delivered in health care settings, thus serving alcohol-dependent patients who might otherwise not receive treatment. Other research has shown that naltrexone is effective in reducing alcohol consumption, relapse, and craving among alcohol-dependent patients who are being treated in ambulatory primary care settings.[335] A recent randomized clinical trial suggests that providing intensive care and pharmacotherapy in a primary care setting proffers better clinical outcomes for patients with alcohol use disorders than those obtained in specialty SUD care.[336]

Even though pharmacotherapy for opioid and alcohol dependence may have a strong evidence base, its uptake in primary care has been slow.[333,336-344] Pharmacotherapy for opioid dependence with methadone is permitted only in accredited specialty substance use treatment programs.[345] The Drug Addiction Treatment Act of 2000 (DATA 2000) allows qualified physicians to dispense or prescribe specifically approved Schedule III, IV, and V narcotic medications for the treatment of opioid addiction in primary care, FQHCs, and specialty practices such as pain management clinics. In addition, DATA 2000 reduces the regulatory burden on physicians who choose to practice opioid addiction therapy by permitting qualified physicians to apply for and receive waivers of the special registration requirements defined in the Controlled Substances Act.[346-348] Despite the availability of pharmacotherapies for treating alcohol and opioid addiction by primary care physicians, few PCPs prescribe these

medications.[339] Only 15 percent of FQHCs that responded to a survey by NACHC had physicians who prescribed buprenorphine to treat opioid dependence. The NACHC survey also found that 43 percent of the FQHCs were interested in training to provide pharmacotherapy for their patients with SUDs, but more than 70 percent of those FQHCs thought that only 1-2 physicians would be interested in free training.[349]

In this project, although only one of the four FQHC sites that were studied offered MAT for alcohol dependence, all four sites indicated interest in offering pharmacotherapy to participating clinics. the FQHC leadership and physicians expressed strong interest in building capacity, but training resources are needed. Some sites indicated that training alone would be insufficient and that strategies for obtaining and maintaining providers who were willing to prescribe medications needed to be identified. Moreover, more work needs to be done to educate both providers and patients about MAT's effectiveness and to overcome stigma about its use.

Intervention Characteristics

The source of the innovation, the strength and quality of the evidence supporting it, the relative advantages the innovation provides, and its adaptability, trial-ability, complexity, design quality and packaging, and cost.

Source and Perceived Strength of Evidence

Treating SUDs with medications is commonly viewed by PCPs as incompatible with the predominant addiction treatment model: abstinence.[350-352] Reickmann et al.[350] found that the orientation of state substance use agencies toward pharmacotherapy influenced the receptivity of PCPs and specialists to using medications.[337,353] A survey of PCPs and substance use treatment specialists about their perceptions of medication use found that most viewed pharmacotherapy as not effective, even when used in conjunction with psychosocial therapy,[350] despite evidence to the contrary[337,353] and despite treatment guidelines.[354] PCPs are generally uninformed about pharmacotherapy for substance use,[355] and they have little understanding of pharmacotherapy treatment adherence.[355] In contrast to this finding, several FQHC staff who participated in the site visits expressed support for MAT and an understanding of its effectiveness alone and in combination with psychosocial therapy. Moreover, they suggested that more attention be paid to strategies for overcoming provider lack of awareness, provider resistance, and fear surrounding the use of Suboxone and other medications.

Complexity

The perceived complexity of pharmacotherapy for addiction and PCPs' perceptions that substance-dependent patients are more difficult to treat for their medical and/or substance use problems are consistently reported as reasons that PCPs are reluctant to implement pharmacotherapy.[356-358] In their systematic review of barriers to

pharmacotherapy in primary care, Becker and Fiellin[356] found that PCPs expressed concerns about increased workload, disruption to workflow, patient safety, inability to meet this population's multiple needs, and poor medication adherence. Buprenorphine induction and dose titration are time-intensive, requiring observed dosing and multiple follow-up assessments, which PCPs perceive as burdensome.[351,355,359-360] Saxon and McCarty,[361] in a systematic review of pharmacotherapy, describe the atypical administration of buprenorphine induction, the possibility that administering the medication can trigger withdrawal, and the requirement that physicians receive eight hours of training in order to be certified to prescribe as reasons that physicians are slow to use this medication.[351,359]

Advantage

Physicians express concern that adopting pharmacotherapy to treat their patients with SUDs will disadvantage them, with many believing that use of buprenorphine will harm their practices[356] and endanger their existing patients.[356,362] Physicians have expressed concern about the possible diversion of buprenorphine,[357,363-366] although evidence is minimal that the medication is being diverted for its euphoric effect.[366]

Cost

The cost to set up and maintain pharmacotherapy practice is modest. Only physicians are permitted to prescribe buprenorphine, and the number of patients who can receive the medication in a physician's practice is capped. Physicians must participate in a free eight-hour training to be certified to prescribe the medication, and only accredited methadone programs can use that medication to treat opioid dependence. The other FDA-approved pharmacotherapies--naltrexone, acamprosate and disulfiram--do not impose any unusual costs on PCPs or practice sites.

Outer Setting

The economic, political, and social contexts within which an organization resides (e.g., constrained funding, billing rules, and the influence of policies related to treatment and targeted populations).

Patient Needs and Resources

A factor that affects PCPs' lack of enthusiasm for pharmacotherapy is a perceived lack of demand, interest, or expression of need from their patients.[352,363,367] Providers report that few patients inquire about medications to treat substance use. Surveys of patients who have SUDs find that, if asked, they prefer receiving substance use treatment in primary care over specialty care.[363,366]

Cosmopolitanism, Specialty Referral, and Outer Organizational Buy-in

The absence of readily accessible referral options for primary care patients with SUDs is a common complaint.[351,355-358,362,364-365,368] Oliva et al.,[351] in their systematic review of barriers to pharmacotherapy in primary care, found that PCPs consider the difficulty in referring patients to specialty substance use treatment and problems coordinating care with specialty programs to be their biggest obstacles. The absence of SUD treatment programs that can help PCPs manage pain patients with co-occurring opioid dependence is a widespread problem.[365] PCPs report lack of support or encouragement of pharmacotherapy from external organizations such as the specialty substance use treatment system, governments, and law enforcement as limitations to their willingness to adopt medical treatments for SUD.[337,350] The slow uptake of pharmacotherapy in primary care also has the paradoxical effect of proving to the pharmaceutical industry that there is a lack of demand for the products, resulting in smaller marketing forces promoting the medications.[351,358]

Regulations and Policies

There are many government and insurance policies that: (1) restrict who can prescribe; (2) limit the settings in which pharmacotherapy can be provided; (3) limit mandated prescribing practices and ancillary services; (4) restrict the number of patients who can receive treatment from a single provider; (5) limit the pharmacotherapies covered by formularies; (6) constrain the length of time patients may be treated and the number of pharmacotherapy episodes permitted; and (7) require that other, treatments be attempted and fail before medications may be used.[337,346,350-351,357,359,361-363,368-369] Two systematic reviews of pharmacotherapy adoption in primary care point to the U.S. Drug Enforcement Agency (DEA) mandate of eight hours of training as a significant obstacle to treating patients with buprenorphine.[346,351,363] To treat opioid-dependent patients with buprenorphine, a physician must hold a current state medical license and a valid DEA registration number and either hold a subspecialty board certification in addiction psychiatry or addiction medicine or have completed not less than eight hours of authorized training on the treatment or management of opioid-dependent patients. An office-based setting provides increased access to medication-assisted treatment for opioid dependence in a less stigmatized environment and enables integrating primary medical care with the treatment of SUDs.[344]

Incentives/Reimbursement

Reimbursement has been one of the most frequently reported barriers to pharmacological treatment implementation.[351,356-358,362-365,368] Systematic reviews of pharmacotherapy uptake in primary care point directly and consistently to payment issues--reimbursement is too low to compensate medical care providers for the costs of delivering pharmacotherapy services.[351,356,363-364] In their systematic review of barriers to pharmacotherapy for addiction disorders, Oliva and colleagues[351] found a web of third-party reimbursement obstacles, including complex Medicaid coverage rules,

insurance plan exclusion of pharmacotherapy, limitations on the duration of covered maintenance treatment, formulary restrictions, and failure to cover methadone maintenance and the depot naltrexone.[351-352,364,367] Providers frequently voice concerns about patients' ability to afford medications and payers' willingness to reimburse the prescriber.[347,351,356,362-363,365, 367-368]

Inner Setting

The structural, political, and cultural contexts through which the implementation process will proceed.

Perception of Need to Change and Fit with Values and Workflow

Not only is actual concrete support for pharmacotherapy important, such as providing training and supervision time, EHR and information technology supports, and financial and other incentives for providers,[374] the *perception* of organizational support is important.[406] Perceived organizational support was strongly associated with adopting and prescribing buprenorphine, and perceived lack of support was associated with reluctance to prescribe.[406] Gordon et al.[391] reported that a perceived lack of buy-in by senior leadership for pharmacologic treatment produced a "no push" attitude by providers. Pharmacotherapy is perceived as a highly intensive intervention with a difficult patient population, and some providers already consider themselves significantly burdened with medically ill patients.[391] This was not found during NORC's site visits. Leadership at the health centers were supportive of pharmacotherapy, expressed strong interest in building capacity to provide such services, and did not report that such treatment was reserved for "difficult" patients or that such patients were burdensome.

Organizational Incentives and Rewards

Perceived lack of resources (e.g., time, space, and staff) and absence of continuing education training are commonly reported barriers.[337,350-352,356-357,361,363-365,368-369] Although mandated training is described as a barrier that inhibits the adoption of buprenorphine pharmacotherapy, PCPs also complain that they lack training. Respondents across multiple studies report that increased access to continuing education would facilitate their adoption of pharmacotherapy.[350-352,355-359,362,365,368,370] Lack of access to experts or mentors to guide implementation, educate staff about pharmacological treatment, and act as resources for providers has been widely reported.[337,357-358,363] PCPs also note a general lack of time for delivering pharmacotherapy and for the administrative tasks associated with treatment protocols.[351-352,358,361,363-365,368]

Characteristics of Individuals

Knowledge and beliefs about the intervention, self-efficacy, individual readiness to change, individual identification with the organization, and other personal attributes.

Self-Efficacy and Knowledge

Low levels of belief that PCPs can manage SUD patients with medications and lack of knowledge about how to do it are two of the most frequently reported barriers.[350-352,355-359,362,365,368,370] Systematic reviews by Oliva et al.[351] and Becker and Fiellin[356] find that lack of information about pharmacotherapy leads to lower uptake and use. Low self-efficacy for pharmacotherapy was associated with perceptions that pharmacotherapy for addiction is more complex than pharmacotherapy for other illnesses, lack of confidence in dealing with patients who misuse or divert medications, and greater medical and legal risks associated with treating addicted patients.[355-356,358,363] Netherland and colleagues[358] found that experienced prescribers rated the logistical components of pharmacotherapy (e.g., induction, clinical guidelines, and access to experts) as less of a concern than providers with little to no experience.

Readiness to Change

Providers' attitudes towards patients with SUDs influence their willingness to treat these patients. Physicians, psychiatrists, nurses, other clinicians, and administrators in primary care practices perceive patients with SUDs to be more difficult, untrustworthy, inconsistent, needy, complaining, and unmotivated than their other patients.[350-352,355,357,359,361,363,365] Several qualitative studies report that a substantial proportion of PCPs are uninterested in and unwilling to treat these patients.[357,365,368] Many endorse separate treatment settings for substance-dependent patients rather than integrated patient-centered medical/health home (PCMH) care[351] and expect poor responses to treatment.[361] Unlike this finding in the literature, the FQHCs that participated in the NORC site visits reported being very willing to treat substance-using patients, were empathetic, and did not express attitudes that these patients were more difficult, untrustworthy, or unmotivated than their other patients.

Perceived Role within the Organization

In contrast to information gathered from key informants and FQHC staff during site visits, the literature suggests that many PCPs do not believe that treating patients with SUDs is their responsibility or within their areas of expertise, and this is evident in their attitudes toward pharmacological treatment. PCPs prefer that patients' substance use treatment be handled separately by a specialty care clinic or by specifically designated addiction staff.[352,355]

Implementation

Encompasses the steps taken to introduce and sustain the innovation.

Several implementation processes have been associated with increased uptake of pharmacotherapy.[350] In the VA, an organizational development consultation service was set up to assist VA primary care practices to initiate, maintain, and expand buprenorphine treatment. The coordination team established and maintained email Listservs; published newsletters; provided webcasts; developed and distributed a resource and protocol guide; convened monthly task force calls; provided email and phone consultation; and connected the buprenorphine implementation process with other quality improvement activities within the VA. Key informants and FQHC site staff indicated that FQHCs could significantly benefit from organizational development consultation with training and technical assistance to build capacity and develop a sustainable plan for delivering MAT.

CONCLUDING SUMMARY OF KEY ELEMENTS IN SUCCESSFULLY INTEGRATING SUBSTANCE USE SCREENING, COUNSELING, PHARMACOLOGICAL TREATMENT, AND CARE MANAGEMENT THROUGHOUT THE NATION'S FQHCS

Across study activities, a number of key elements emerged for supporting the integration of substance use screening, brief counseling, MAT, and care management throughout the country's FQHCs. A summary is presented below using the CFIR framework.

Intervention Characteristics

Source of the innovation, the strength and quality of the evidence supporting it, the relative advantages the innovation provides, and its adaptability, trial-ability, complexity, design quality and packaging, and cost.

- **Support must come from leaders who are credible to FQHCs**: Impetus for integrating substance use treatment must come from the organizations and professional societies that are most salient to health centers.

- **A standard, brief behavioral health screener is needed**: A common, simple screener is needed that primary care can use to assess behavioral risks, including alcohol and substance use.

- **Adapt substance use risk assessment and intervention**: FQHCs should be encouraged to fit substance use screening and risk reduction interventions into their style and pace of practice. Adaptations may include the use of very brief screens, integrating behavioral health clinicians into primary care teams, reframing motivational interviewing as shared decision making, and promoting pharmacotherapy in the primary care practice rather than referring it out.

Outer Setting

The economic, political, and social contexts within which an organization resides. These may include constrained funding, billing rules, and the influence of policies related to treatment and targeted populations.

- **Standardize substance use SBI metrics for EHR reporting**: Simple, electronically specified measures of SBI can be modeled on the depression and tobacco screening and counseling measures that FQHCs already report.

- **Include SBI as an essential element of patient-centered medical homes**: Primary care practices that seek certification as PCMHs should demonstrate their ability to provide substance use screening, intervention, and treatment to their patients.

- **Remove restrictions on communication between providers**: Clinicians need to be able to readily access all necessary clinical information to assess and treat their patients, including information about patients' substance use.

- **Remove reimbursement barriers**: Substance use screening, treatment, and care management, when delivered by credentialed primary care professionals or well-trained non-credentialed paraprofessionals, must be sufficiently reimbursed to be financially sustainable for primary care. The barriers that could be removed include restrictions on "incident to" and non-physician payments for SBI preventive services, absence of coverage for same-day services, and low relative values for SBI and pharmacotherapy procedures to increase reimbursement rates. Restrictions on pharmacotherapy for SUDs such as episode limits should be discouraged, and inclusion of FDA-approved medications for SUDs in formularies should be strongly encouraged.

- **Payers should demand accountability**: The government and private insurers should require reports on substance use screening and treatment, similar to the requirements to report on diabetes, hypertension, immunizations and other routine primary care clinical services.

- **Direct greater attention to integrating substance use services throughout PCBHI efforts**: Service and training grant programs that are designed to increase the integration of primary and behavioral health care services should explicitly require substance use services.

Inner Setting

The structural, political, and cultural contexts through which the implementation process will proceed.

- **Organizational development consultation may result in the better fit of SBI into FQHC workflows than adding SBI-specific staff**: Assisting health centers to infuse substance use screening and treatment into their existing patient flows, EHRs, and accountability structures may increase uptake and sustainability.

- **Behavioral health clinicians working in FQHCs need substance use training and skills**: Behavioral health specialists should be skilled in assessing and managing the wide range of behavioral health issues of primary care patients, including their unhealthy use of alcohol and other drugs.

- **Substance use records should be integrated into all EHR systems**: EHRs should always include fields for substance use risk assessment, diagnosis, and treatment.

Characteristics of Individuals

Knowledge and beliefs about the intervention, self-efficacy, individual readiness to change, individual identification with the organization, and other personal attributes.

- **Continuing education programs for FQHC primary care and behavioral health personnel should include substance use risk assessment and treatment**: Workforce development in primary care must include core substance use risk assessment and intervention competencies.

- **Emphasize substance use in pre-professional primary care workforce development**: Baccalaureate and advanced health professional education programs should teach core competencies in substance use risk assessment, treatment, and recovery support.

- **Recognize FQHCs that provide outstanding substance use care**: Recognize health centers that excel in assessing and managing substance use risk, and publicize their success for others to emulate.

Implementation

Steps taken to introduce and sustain the innovation.

- **Create an FQHC SUD quality enhancement center**: An established, recognized national infrastructure composed of subject matter experts, recognized FQHC and primary care association leaders, organizational development consultants, and health information technology and quality improvement experts is needed to integrate substance use into FQHCs. Planning consistent, interoperable recording of substance use screening, psychosocial treatment, and pharmacotherapy in FQHCs' EHRs is essential. Other core components of an implementation system are developing data systems for

monitoring, feedback, and performance measurement. The implementation process must be flexible, but it has to include performance measures to motivate leaders and providers nationwide, which, in turn, leads to the commitment of necessary resources. Finally, after the initial funding of innovations, support SBI implementation with ongoing clinical and quality improvement resources.

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APPENDIX A. LITERATURE REVIEW AND INTERVIEW STRATEGY

The overall research literature review strategy started with Medline, the main research data resource, and attempted to first capture a set of SBIRT-related records qualified by language (English) and publication years (2002-2013); no geographic qualifiers were introduced. After multiple trial checks, "brief intervention"--which implies a method of detection or screening and of actual or possible follow-up to referral--was determined to be the most effective way to retrieve relevant articles. Search terms included SBIRT, "screening, brief intervention and referral to treatment," and various permutations such as brief adj3 intervention*, brief adj2 counseling, and others. Once this set of records was identified, additional terms were searched against it to yield articles that were relevant to the five issues. These included terms and permutations of: (1) health care setting (e.g., exp primary health care/, primary adj2 care, primary healthcare, federally qualified health center*, FQHC*, exp community health centers, etc.); (2) treatment outcomes and cost benefits (e.g., exp outcome and process assessment (health care), exp cost-benefit analysis, cost* adj3 saving*, and other MeSH and keyword terms); (3) substance abuse and mental health (e.g., exp substance-related disorders/, exp alcohol drinking/, alcohol, alcohol drinking, alcoholic*, alcoholism, etc.); (4) implementation; and (5) terms that might have revealed articles about direct and indirect ways to initiate, promote, and sustain SBIRT efforts in the future (e.g., keywords and MeSH headings for benchmarking, quality indicators, accountability, health information technology, health care quality, information dissemination, reimbursement, etc.). After Medline records were excluded, a similar search of subsequent databases (CINAHL, Psych Info, Cochrane Library (Wiley) was conducted. Cited reference searches in the Web of Science database of key articles were further refined by search criteria (e.g., implement* or adopt* or disseminat* or innovat*). The Embase search used criteria parallel to those searched in Medline to retrieve the initial set of SBIRT-related publications.

Additional Search Strategies

All retrieved citations and corresponding articles were placed in EndNote, and a "snowball" search was performed by project director Eric Goplerud, project manager Tracy McPherson, and lead research analyst Christina Cruz to identify additional relevant articles. In addition to the systematic search and subsequent snowball searches, germane literature was also gathered through personal communications and discussions with leading experts in the field.

Relevant Literature Identification Process

Articles identified in the search were then reviewed by project director Eric Goplerud to narrow search results to include only articles pertaining to: SBIRT

implementation, integration of SBIRT into primary care and community health settings, barriers to and facilitators of SBIRT, barriers to and facilitators of substance abuse treatment (including MAT) implementation in primary care and community health settings, and implementation science for evidence-based practice. Articles were then sorted by topic and setting by project director Eric Goplerud and lead analyst Christina Cruz. Articles were sorted into three categories that reflected the structure of the subsequent literature review: SBIRT implementation in adult substance abuse populations in primary care and community health centers; SBIRT implementation in adolescent populations in primary care, community health settings, and school-based networks; and pharmacotherapy integration in primary care and community health settings.

The review of articles and relevant materials (e.g., personal communications) resulted in 410 research articles and reviews pertaining to substance abuse/SBIRT implementation barriers and facilitators: 288 substance abuse/SBIRT implementation articles (adult), 31 MAT implementation articles, 38 substance abuse/SBIRT implementation articles (adolescent) in primary care/community health/school-based settings, five cost analysis articles that examined substance abuse/SBIRT integration in primary care/community health settings, 53 implementation science articles (with emphasis on substance use integration in primary care/community health settings), and 19 international articles (emphasis on substance use integration in primary care/community health centers).

The research team also interviewed 30 experts who had practical and research experience integrating substance use services into primary care settings, and the team visited four FQHCs to conduct semi-structured interviews with clinical, administrative, and financial staff. Discussion guides for the expert and site visit interviews covered integrated service characteristics; billing, reimbursement, and funding climate; leadership support; training; staffing; relationships with SUD treatment and specialty care providers; health information technology and EHRs; outcomes and monitoring; and policies and procedures. Information from interviews and site visits is integrated into the literature review. Working with the ASPE, the team identified 30 key informants who were interviewed by either Dr. Goplerud or Dr. McPherson in semi-structured one-hour telephone interviews. The following informants were interviewed: Stephanie Harrison, executive director, Wisconsin Primary Health Care Association; Virna Little, senior vice president, Psychosocial Services and Community Affairs, the Institute for Family Health; Mia Croyle, behavioral health program manager, Wisconsin Primary Health Care Association; Ted A. Kay, president and CEO, Family Health/La Clínica; Jeffrey Goodie, board-certified clinical health psychologist, associate professor, Department of Family Medicine, Uniformed Services University; Marla Oros RN, MS, president, Mosaic Group; Jeff Reiter, PCBHI/SBIRT consultant and director of behavioral health; Jim Werth, board-certified in counseling psychology, behavioral health and wellness services director, Stone Mountain Health Services; Tillman Farley, executive vice president for medical services, Salud Family Health Centers; Katrin Seifert, Director of Integrated Services and Psychology Training, Salud Family Health Centers; Ariel Singer, MPH, technical assistance curriculum manager, Oregon Primary Care Association; Arne Beck,

research, Kaiser Permanente, Colorado; Brenda Reiss-Brennan, RN, Intermountain Health; Kirk Stohsal, behavioral health consultant, Rocky Mountain; Nicolas Serriano, psychologist and consultant, FQHC in Madison, Wisconsin; and Tom Backer, Human Interaction Research Institute. In addition, Dr. Goplerud and Dr. McPherson interviewed knowledgeable personnel from SAMHSA, NIAAA, NIDA, HRSA, CDC, CMS and ASPE.

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